



**FCC 47 CFR PART 15 SUBPART E**

**CERTIFICATION TEST REPORT**

**FOR**

**GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac & NFC**

**FCC ID: PY7-PM0944**

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Revision History

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## TABLE OF CONTENTS

<b>1. ATTESTATION OF TEST RESULTS .....</b>	<b>7</b>
<b>2. TEST METHODOLOGY .....</b>	<b>8</b>
<b>3. FACILITIES AND ACCREDITATION .....</b>	<b>8</b>
<b>4. CALIBRATION AND UNCERTAINTY .....</b>	<b>8</b>
4.1. <i>MEASURING INSTRUMENT CALIBRATION .....</i>	<i>8</i>
4.2. <i>SAMPLE CALCULATION .....</i>	<i>8</i>
4.3. <i>MEASUREMENT UNCERTAINTY.....</i>	<i>9</i>
<b>5. EQUIPMENT UNDER TEST .....</b>	<b>10</b>
5.1. <i>DESCRIPTION OF EUT .....</i>	<i>10</i>
5.2. <i>MAXIMUM OUTPUT POWER.....</i>	<i>10</i>
5.3. <i>DESCRIPTION OF AVAILABLE ANTENNAS .....</i>	<i>10</i>
5.4. <i>SOFTWARE AND FIRMWARE.....</i>	<i>11</i>
5.5. <i>LIST OF TEST REDUCTION AND MODES.....</i>	<i>11</i>
5.6. <i>WORST-CASE CONFIGURATION AND MODE.....</i>	<i>13</i>
5.7. <i>DESCRIPTION OF TEST SETUP.....</i>	<i>14</i>
<b>6. TEST AND MEASUREMENT EQUIPMENT .....</b>	<b>16</b>
<b>7. SUMMARY TABLE .....</b>	<b>18</b>
<b>8. ANTENNA PORT TEST RESULTS .....</b>	<b>19</b>
8.1. <i>ON TIME AND DUTY CYCLE.....</i>	<i>19</i>
8.2. <i>ON TIME AND DUTY CYCLE RESULTS.....</i>	<i>19</i>
8.3. <i>DUTY CYCLE PLOTS .....</i>	<i>20</i>
8.4. <i>6 dB BANDWIDTH.....</i>	<i>22</i>
8.4.1. <i>802.11a MODE IN THE 5.8 GHz BAND.....</i>	<i>23</i>
8.4.2. <i>802.11n HT20 MODE IN THE 5.8 GHz BAND .....</i>	<i>23</i>
8.4.3. <i>802.11n HT40 MODE IN THE 5.8 GHz BAND .....</i>	<i>23</i>
8.4.4. <i>802.11ac VHT80 MODE IN THE 5.8 GHz BAND .....</i>	<i>23</i>
8.4.5. <i>6 dB BANDWIDTH MID CH PLOTS.....</i>	<i>24</i>
8.5. <i>26 dB BANDWIDTH.....</i>	<i>26</i>
8.5.1. <i>802.11a MODE IN THE 5.2 GHz BAND.....</i>	<i>26</i>
8.5.2. <i>802.11n HT20 MODE IN THE 5.2 GHz BAND .....</i>	<i>26</i>
8.5.3. <i>802.11n HT40 MODE IN THE 5.2 GHz BAND .....</i>	<i>26</i>
8.5.4. <i>802.11ac VHT80 MODE IN THE 5.2 GHz BAND .....</i>	<i>26</i>

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8.5.5.	802.11a MODE IN THE 5.3 GHz BAND .....	27
8.5.6.	802.11n HT20 MODE IN THE 5.3 GHz BAND .....	27
8.5.7.	802.11n HT40 MODE IN THE 5.3 GHz BAND .....	27
8.5.8.	802.11ac VHT80 MODE IN THE 5.3 GHz BAND .....	27
8.5.9.	802.11a MODE IN THE 5.5 GHz BAND .....	28
8.5.10.	802.11n HT20 MODE IN THE 5.5 GHz BAND .....	28
8.5.11.	802.11n HT40 MODE IN THE 5.5 GHz BAND .....	28
8.5.12.	802.11ac VHT80 MODE IN THE 5.5 GHz BAND .....	28
8.5.13.	26 dB BANDWIDTH PLOTS .....	29
8.6.	99% BANDWIDTH .....	33
8.6.1.	802.11a MODE IN THE 5.2 GHz BAND .....	33
8.6.2.	802.11n HT20 MODE IN THE 5.2 GHz BAND .....	33
8.6.3.	802.11n HT40 MODE IN THE 5.2 GHz BAND .....	33
8.6.4.	802.11ac VHT80 MODE IN THE 5.2 GHz BAND .....	33
8.6.5.	802.11a MODE IN THE 5.3 GHz BAND .....	34
8.6.6.	802.11n HT20 MODE IN THE 5.3 GHz BAND .....	34
8.6.7.	802.11n HT40 MODE IN THE 5.3 GHz BAND .....	34
8.6.8.	802.11ac VHT80 MODE IN THE 5.3 GHz BAND .....	34
8.6.9.	802.11a MODE IN THE 5.5 GHz BAND .....	35
8.6.10.	802.11n HT20 MODE IN THE 5.5 GHz BAND .....	35
8.6.11.	802.11n HT40 MODE IN THE 5.5 GHz BAND .....	35
8.6.12.	802.11ac VHT80 MODE IN THE 5.5 GHz BAND .....	35
8.6.13.	802.11a MODE IN THE 5.8 GHz BAND .....	36
8.6.14.	802.11n HT20 MODE IN THE 5.8 GHz BAND .....	36
8.6.15.	802.11n HT40 MODE IN THE 5.8 GHz BAND .....	36
8.6.16.	802.11ac VHT80 MODE IN THE 5.8 GHz BAND .....	36
8.6.17.	99% BANDWIDTH PLOTS .....	37
8.7.	OUTPUT POWER AND PSD .....	44
8.7.1.	802.11a MODE IN THE 5.2 GHz BAND .....	50
8.7.2.	802.11n HT20 MODE IN THE 5.2 GHz BAND .....	51
8.7.3.	802.11n HT40 MODE IN THE 5.2 GHz BAND .....	52
8.7.4.	802.11ac VHT80 MODE IN THE 5.2 GHz BAND .....	53
8.7.5.	802.11a MODE IN THE 5.3 GHz BAND .....	54
8.7.6.	802.11n HT20 MODE IN THE 5.3 GHz BAND .....	55
8.7.7.	802.11n HT40 MODE IN THE 5.3 GHz BAND .....	56
8.7.8.	802.11ac VHT80 MODE IN THE 5.3 GHz BAND .....	57
8.7.9.	802.11a MODE IN THE 5.5 GHz BAND .....	58
8.7.10.	802.11n HT20 MODE IN THE 5.5 GHz BAND .....	59
8.7.11.	802.11n HT40 MODE IN THE 5.5 GHz BAND .....	60
8.7.12.	802.11ac VHT80 MODE IN THE 5.5 GHz BAND .....	61
8.7.13.	802.11a MODE IN THE 5.8 GHz BAND .....	62
8.7.14.	802.11n HT20 MODE IN THE 5.8 GHz BAND .....	63
8.7.15.	802.11n HT40 MODE IN THE 5.8 GHz BAND .....	64
8.7.16.	802.11ac VHT80 MODE IN THE 5.8 GHz BAND .....	65
8.7.17.	OUTPUT POWER AND PSD PLOTS .....	66
<b>9.</b>	<b>TRANSMITTER ABOVE 1 GHz.....</b>	<b>72</b>

9.1.	5.2 GHz .....	73
9.1.1.	TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND .....	73
9.1.2.	TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND.....	78
9.1.3.	TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND.....	83
9.1.4.	TX ABOVE 1 GHz 802.11ac VHT80 MODE IN THE 5.2 GHz BAND .....	87
9.2.	5.3 GHz .....	90
9.2.1.	TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND .....	90
9.2.2.	TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND.....	95
9.2.3.	TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND.....	100
9.2.4.	TX ABOVE 1 GHz 802.11ac VHT80 MODE IN THE 5.3 GHz BAND .....	104
9.3.	5.5-5.6 GHz .....	107
9.3.1.	TX ABOVE 1 GHz 802.11a MODE IN THE 5.5 GHz BAND .....	107
9.3.2.	TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.5 GHz BAND.....	114
9.3.3.	TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.5 GHz BAND.....	122
9.3.4.	TX ABOVE 1 GHz 802.11ac VHT80 MODE IN THE 5.5 GHz BAND .....	129
9.4.	5.8 GHz .....	135
9.4.1.	TX ABOVE 1 GHz 802.11a MODE IN THE 5.8 GHz BAND .....	135
9.4.2.	TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.8 GHz BAND.....	142
9.4.3.	TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.8 GHz BAND.....	149
9.4.4.	TX ABOVE 1 GHz 802.11ac VHT80 MODE IN THE 5.8 GHz BAND .....	155
<b>10.</b>	<b>WORST-CASE BELOW 1 GHz (in the 5.3 GHz Band).....</b>	<b>160</b>
<b>11.</b>	<b>AC POWER LINE CONDUCTED EMISSIONS .....</b>	<b>161</b>
<b>12.</b>	<b>DYNAMIC FREQUENCY SELECTION.....</b>	<b>163</b>
12.1.	OVERVIEW.....	163
12.1.1.	LIMITS.....	163
12.1.2.	TEST AND MEASUREMENT SYSTEM.....	167
12.1.3.	SETUP OF EUT.....	170
12.1.4.	DESCRIPTION OF EUT .....	171
12.2.	RESULTS FOR 20 MHz BANDWIDTH.....	173
12.2.1.	TEST CHANNEL .....	173
12.2.2.	RADAR WAVEFORM AND TRAFFIC .....	173
12.2.3.	OVERLAPPING CHANNEL TESTS.....	176
12.2.4.	MOVE AND CLOSING TIME .....	176
12.4.	RESULTS FOR 40 MHz BANDWIDTH.....	180
12.4.1.	TEST CHANNEL .....	180
12.4.2.	RADAR WAVEFORM AND TRAFFIC.....	180
12.4.3.	OVERLAPPING CHANNEL TESTS.....	183
12.4.4.	MOVE AND CLOSING TIME .....	183
12.5.	RESULTS FOR 80 MHz BANDWIDTH.....	187
12.5.1.	TEST CHANNEL .....	187
12.5.2.	RADAR WAVEFORM AND TRAFFIC.....	187
12.5.3.	OVERLAPPING CHANNEL TESTS.....	190

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12.5.4. MOVE AND CLOSING TIME .....	190
12.5.5. 10-MINUTE BEACON MONITORING PERIOD .....	194
<b>13. SETUP PHOTOS.....</b>	<b>195</b>

# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** SONY MOBILE COMMUNICATIONS, INC.  
**EUT DESCRIPTION:** GSM/WCDMA/LTE PHONE with BT, DTS/UNII a/b/g/n/ac & NFC  
**SERIAL NUMBER:** Z0XG, CB5129YM98  
**DATE TESTED:** MARCH 21 2015 (DFS) , APRIL 2- 15, 2016 (RF)

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart E	Pass

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revision section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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WISE ENGINEER  
CONSUMER TECHNOLOGY DIVISION

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, and ANSI C63.10-2013, RSS-GEN Issue 4, and RSS-247 Issue 1.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 12 Laboratory Dr., Research Triangle Park, NC 27709, USA and 2800 Suite B, Perimeter Park Drive, Morrisville, NC 27560.

12 Laboratory Dr., RTP, NC 27709	
<input type="checkbox"/>	Chamber A
<input type="checkbox"/>	Chamber C

2800 Suite B Perimeter Park Dr., Morrisville, NC 27560	
<input type="checkbox"/>	Chamber NORTH
<input checked="" type="checkbox"/>	Chamber SOUTH

The onsite chambers are covered under Industry Canada company address code 2180C with site numbers 2180C -1 through 2180C-4, respectively.

UL LLC (RTP) is accredited by NVLAP, Laboratory Code 200246-0. The full scope of accreditation can be viewed at <http://www.nist.gov/nvlap/>.

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

### 4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER		UNCERTAINTY
Total RF power, conducted	+/-	0.45
RF power density, conducted	+/-	1.50
Spurious emissions, conducted	+/-	2.94
All emissions, radiated up to 26 GHz	+/-	5.36
Temperature	+/-	0.07
Humidity	+/-	2.26
DC and low frequency voltages	+/-	1.27
Conducted Disturbance, 0.15 to 30 MHz	+/-	2.37

Uncertainty figures are valid to a confidence level of 95%.

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

This EUT is a GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac & NFC.

### 5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Total Output Power (dBm)	Total Output Power (mW)
5180 - 5240	802.11a	11.41	13.84
5260 - 5320	802.11a	11.19	13.15
5500 - 5720	802.11a	11.47	14.03
5745 - 5825	802.11a	11.27	13.40
5180 - 5240	802.11n HT20	11.47	14.03
5260 - 5320	802.11n HT20	10.96	12.47
5500 - 5720	802.11n HT20	11.39	13.77
5745 - 5825	802.11n HT20	11.21	13.21
5190 - 5230	802.11n HT40	11.64	14.59
5270 - 5310	802.11n HT40	11.63	14.55
5510 - 5710	802.11n HT40	12.11	16.26
5755 - 5795	802.11n HT40	12.11	16.26
5210	802.11ac VHT80	11.86	15.35
5290	802.11ac VHT80	11.41	13.84
5530 - 5690	802.11ac VHT80	11.96	15.70
5775	802.11ac VHT80	11.61	14.49

### 5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes FPCB antenna, with a maximum as below:

Frequency (MHz)	Peak Antenna Gain (dBi)	
	Core0(Main)	Core1 (Sub)
5180-5320	-4.2	-4.2
5500-5720	-6.0	-3.2
5745-5825	-5.7	-5.4

## 5.4. SOFTWARE AND FIRMWARE

The firmware/SW installed in the EUT during testing was SONY, s\_atp\_xxxx\_1\_600\_7\_9

The hardware version was A

The test utility software used during testing was Tera Term, rev 4.8.9(SVN#6182)

## 5.5. LIST OF TEST REDUCTION AND MODES

Authorized Frequency Band (Antenna Port & Radiated Testing)		
Frequency Range (MHz)	Mode	Covered by
5180 - 5240	802.11a Legacy 1TX	802.11a CDD 2TX
5180 - 5240	802.11n HT20 1TX	802.11n HT20 CDD 2TX
5180 - 5240	802.11n HT20 STBC 2TX	802.11n HT20 CDD 2TX
5180 - 5240	802.11ac VHT20 1TX	802.11n HT20 CDD 2TX
5180 - 5240	802.11ac VHT20 STBC 2TX	802.11n HT20 CDD 2TX
5190 - 5230	802.11n HT40 1TX	802.11n HT40 CDD 2TX
5190 - 5230	802.11n HT40 STBC 2TX	802.11n HT40 CDD 2TX
5190 - 5230	802.11ac VHT40 1TX	802.11n HT40 CDD 2TX
5190 - 5230	802.11ac VHT40 STBC 2TX	802.11n HT40 CDD 2TX
5210	802.11ac VHT80 1TX	802.11ac VHT80 CDD 2TX
5210	802.11ac VHT80 STBC 2TX	802.11ac VHT80 CDD 2TX

Authorized Frequency Band (Antenna Port & Radiated Testing)		
Frequency Range (MHz)	Mode	Covered by
5260 - 5320	802.11a Legacy 1TX	802.11a CDD 2TX
5260 - 5320	802.11n HT20 1TX	802.11n HT20 CDD 2TX
5260 - 5320	802.11n HT20 STBC 2TX	802.11n HT20 CDD 2TX
5260 - 5320	802.11ac VHT20 1TX	802.11n HT20 CDD 2TX
5260 - 5320	802.11ac VHT20 STBC 2TX	802.11n HT20 CDD 2TX
5270 - 5310	802.11n HT40 1TX	802.11n HT40 CDD 2TX
5270 - 5310	802.11n HT40 STBC 2TX	802.11n HT40 CDD 2TX
5270 - 5310	802.11ac VHT40 1TX	802.11n HT40 CDD 2TX
5270 - 5310	802.11ac VHT40 STBC 2TX	802.11n HT40 CDD 2TX
5290	802.11ac VHT80 1TX	802.11ac VHT80 CDD 2TX
5290	802.11ac VHT80 STBC 2TX	802.11ac VHT80 CDD 2TX

<b>Authorized Frequency Band (Antenna Port &amp; Radiated Testing)</b>		
<b>Frequency Range (MHz)</b>	<b>Mode</b>	<b>Covered by</b>
5500 - 5720	802.11a Legacy 1TX	802.11a CDD 2TX
5500 - 5720	802.11n HT20 1TX	802.11n HT20 CDD 2TX
5500 - 5720	802.11n HT20 STBC 2TX	802.11n HT20 CDD 2TX
5500 - 5720	802.11ac VHT20 1TX	802.11n HT20 CDD 2TX
5500 - 5720	802.11ac VHT20 STBC 2TX	802.11n HT20 CDD 2TX
5510 - 5710	802.11n HT40 1TX	802.11n HT40 CDD 2TX
5510 - 5710	802.11n HT40 STBC 2TX	802.11n HT40 CDD 2TX
5510 - 5710	802.11ac VHT40 1TX	802.11n HT40 CDD 2TX
5510 - 5710	802.11ac VHT40 STBC 2TX	802.11n HT40 CDD 2TX
5530 - 5690	802.11ac VHT80 1TX	802.11ac VHT80 CDD 2TX
5530 - 5690	802.11ac VHT80 STBC 2TX	802.11ac VHT80 CDD 2TX

<b>Authorized Frequency Band (Antenna Port &amp; Radiated Testing)</b>		
<b>Frequency Range (MHz)</b>	<b>Mode</b>	<b>Covered by</b>
5745 - 5825	802.11a Legacy 1TX	802.11a CDD 2TX
5745 - 5825	802.11n HT20 1TX	802.11n HT20 CDD 2TX
5745 - 5825	802.11n HT20 STBC 2TX	802.11n HT20 CDD 2TX
5745 - 5825	802.11ac VHT20 1TX	802.11n HT20 CDD 2TX
5745 - 5825	802.11ac VHT20 STBC 2TX	802.11n HT20 CDD 2TX
5755 - 5795	802.11n HT40 1TX	802.11n HT40 CDD 2TX
5755 - 5795	802.11n HT40 STBC 2TX	802.11n HT40 CDD 2TX
5755 - 5795	802.11ac VHT40 1TX	802.11n HT40 CDD 2TX
5755 - 5795	802.11ac VHT40 STBC 2TX	802.11n HT40 CDD 2TX
5775	802.11ac VHT80 1TX	802.11ac VHT80 CDD 2TX
5775	802.11ac VHT80 STBC 2TX	802.11ac VHT80 CDD 2TX

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## 5.6. WORST-CASE CONFIGURATION AND MODE

Radiated emission below 1GHz and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y, Z to determine the worst-case orientation; therefore, all final radiated testing was performed with the worst-case orientation.

SISO and MIMO mode share same power per chain; therefore only MIMO mode was tested.

Based on the baseline scan, the worst-case data rates were:

802.11a mode MMO: 6 Mbps

802.11n HT20 MIMO mode: MCS8

802.11n HT40 MIMO mode: MCS8

802.11ac VHT80 mode MIMO: MCS0

## 5.7. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	SONY	UCH 20 1295-70821	N/A	N/A
Earphone	SONY	MH410C	N/A	N/A
Laptop	Lenovo	T450	PC-0A2UQU	N/A
Laptop AC Adapter	Lenovo	ADLX65NLC2A	11S45N0263Z1ZS995256HR	N/A

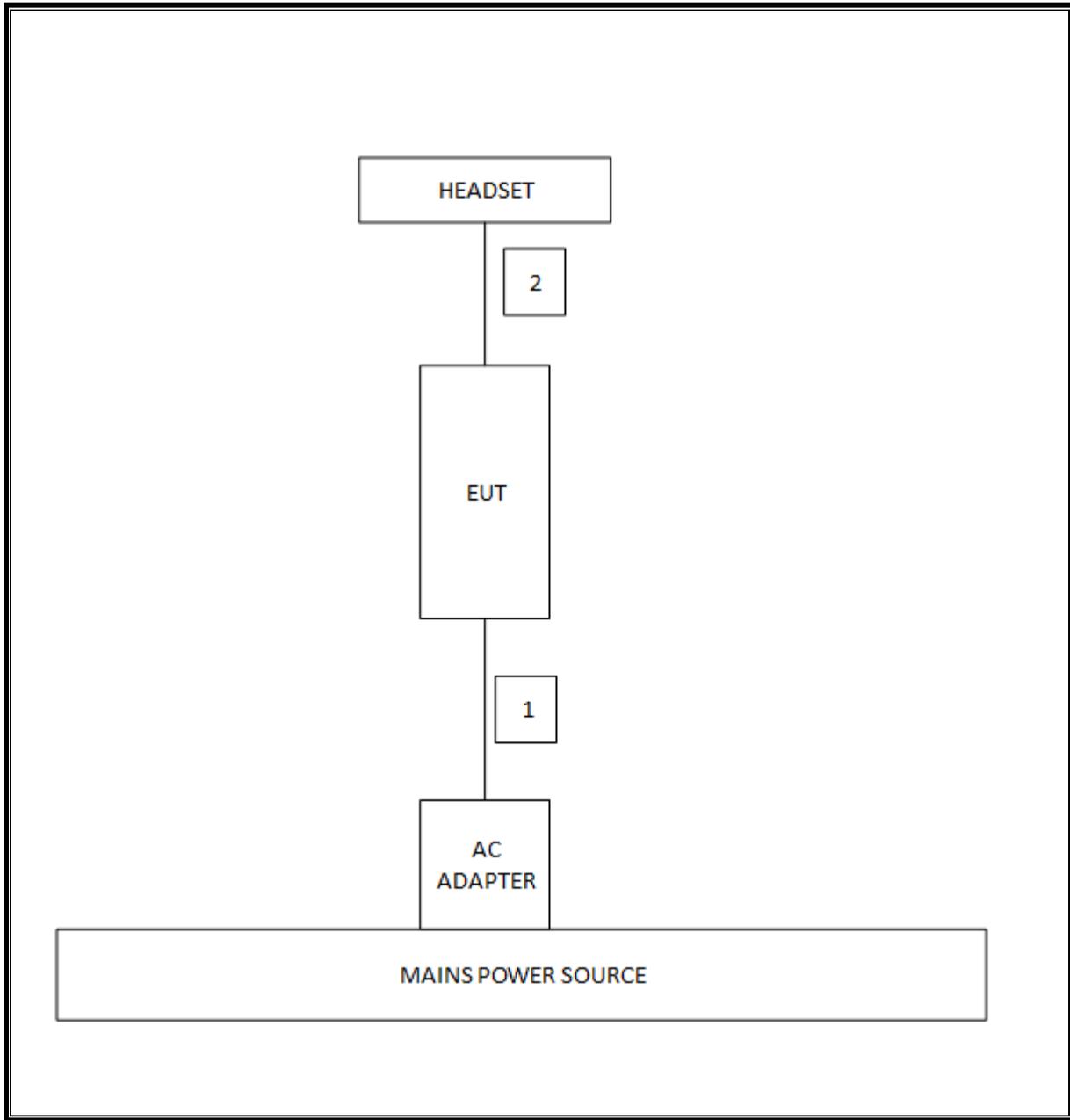
### I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	1m	N/A
2	Audio	1	Mini-Jack	Unshielded	1.5m	N/A

### TEST SETUP

The EUT is a stand-alone unit during the tests. Test software exercised the radio card.

**SETUP DIAGRAM FOR TESTS**



## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	<b>0.009-30MHz</b>	<b>(Loop Ant.)</b>			
AT0079	Active Loop Antenna	ETS-Lindgren	6502	2015-12-08	2016-12-31
	<b>30-1000 MHz</b>				
AT0074	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2015-06-10	2016-06-30
	<b>1-18 GHz</b>				
AT0067 (02/28-03/17/2016)	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2015-03-12	2016-03-31
AT0069 (As of 03/18/2016)	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2016-03-07	2017-03-31
	<b>18-40 GHz</b>				
AT0076	Horn Antenna, 18-26.5GHz	ARA	MWH-1826/B	2015-08-27	2016-08-31
AT0077	Horn Antenna, 26-40GHz	ARA	MWH-2640/B	2015-08-27	2016-08-31
	<b>Tuned Dipole Set</b>				
AT0013-AT0016	Four Dipole Antenna Set, 30 to 1000 MHz	EMCO	3121C-DB-1, -2, -3, -4	2015-05-06	2016-05-31
	<b>Gain-Loss Chains</b>				
S-SAC01	Gain-loss string: 0.009-30MHz	Various	Various	2015-10-07	2016-10-31
S-SAC02	Gain-loss string: 30-1000MHz	Various	Various	2015-06-09	2016-06-30
S-SAC03	Gain-loss string: 1-18GHz	Various	Various	2015-08-22	2016-08-31
S-SAC04	Gain-loss string: 18-40GHz	Various	Various	2016-02-29	2017-02-28
	<b>Receiver &amp; Software</b>				
SA0025	Spectrum Analyzer	Agilent	N9030A	2016-03-17	2017-03-31
SA0026 (18-40GHz RSE)	Spectrum Analyzer	Agilent	N9030A	2016-02-24	2017-02-28
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	<b>Additional Equipment used</b>				
HI0050	Temp/Humid/Pressure Meter	Cole-Parmer	99760-00	2015-07-01	2016-07-31

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	<b>Conducted Room 1</b>				
SA0019	Spectrum Analyzer	Agilent Technologies	E4446A	2015-09-02	2016-09-30
PWM004	RF Power Meter	Keysight Technologies	N1911A	2015-06-08	2016-06-08
PWS004	Peak and Avg Power Sensor, 50MHz to 6GHz	Keysight Technologies	E9323A	2015-06-05	2016-06-05
HI0079	Temp/Humid/Pressure Meter	Springfield	PreciseTemp	2015-07-1	2016-07-31
MM0167	True RMS Multimeter	Agilent	U1232A	2015-08-17	2016-08-31
76022	DC Regulated Power Supply	CircuitSpecialists.Com	CSI3005X5	NA	NA
T1023	EMPower USB RF Power Sensor, 10MHz to 6GHz	ETS Lindgren	7002-006	2015-10-01	2016-10-01

Test Software List			
Description	Manufacturer	Model	Version
Radiated Software	UL	UL EMC	Ver 9.5, Aug 20, 2015
Conducted Software	UL	UL EMC	Ver 9.5, Aug 20, 2015
Antenna Port Software	UL	UL RF	Ver 4.3, Mar 16, 2016

## 7. SUMMARY TABLE

FCC Part Section	RSS Section	Test Description	Test Limit	Test Condition	Test Result
§15.407 (a)	RSS-247	Occupied Band width (26dB)	N/A	Conducted	Pass
§15.407	RSS-247 6.2.4	6dB Band width (5.8Ghz)	>500KHz		Pass
§15.407 (a)(1)	RSS-247 6.2	TX Cond. Power 5.15-5.25	<24dBm (FCC) / <23 dBm or <10+10Log(99% BW) (IC)		Pass
§15.407 (a)(2)	RSS-247 6.2	TX Cond. Power 5.25-5.35 & 5.47-5.725	<24dBm or <11+10log (OBW) (FCC) / <24 dBm or <11+10Log(99% BW) (IC)		Pass
§15.407 (a)(3)	RSS-247 6.2.4	TX Cond. Power 5.725- 5.850	<30dBm		Pass
§15.407 (a)(1)	RSS-247 6.2	PSD (5.15-5.25)	<11dBm/MHz (FCC) <10dBm/MHz EIRP (IC)		Pass
§15.407 (a)(2)	RSS-247 6.2	PSD (5.3,5.5GHz)	<11dBm/MHz		Pass
§15.407 (a)(3)	RSS-247 6.2.4	PSD (5.8GHz)	<30dBm per 500kHz		
§15.207(a) §15.407(b)(6)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10		Pass
§15.407(b) & 15.209	RSS-GEN 8.9/7	Radiated Spurious Emission	<54dBuV/m		Radiated
§15.407 (h)(2)	RSS-247 6.3	Dynamic Frequency Selection	N/A	Radiated / Conducted	Pass

## 8. ANTENNA PORT TEST RESULTS

### 8.1. ON TIME AND DUTY CYCLE

#### LIMITS

None; for reporting purposes only.

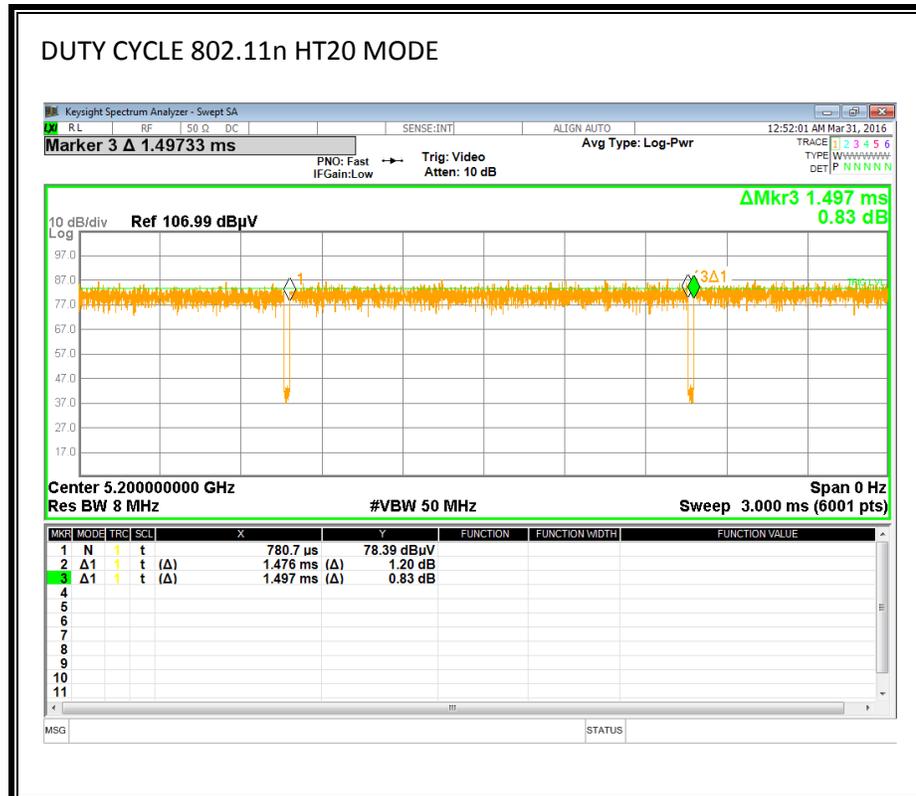
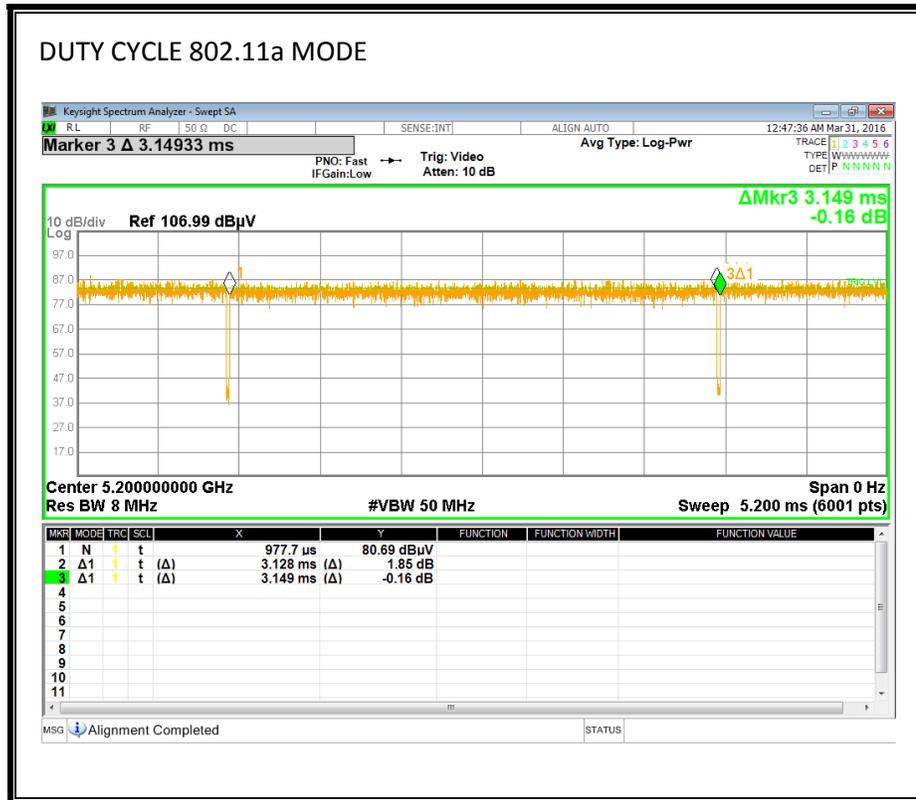
#### PROCEDURE

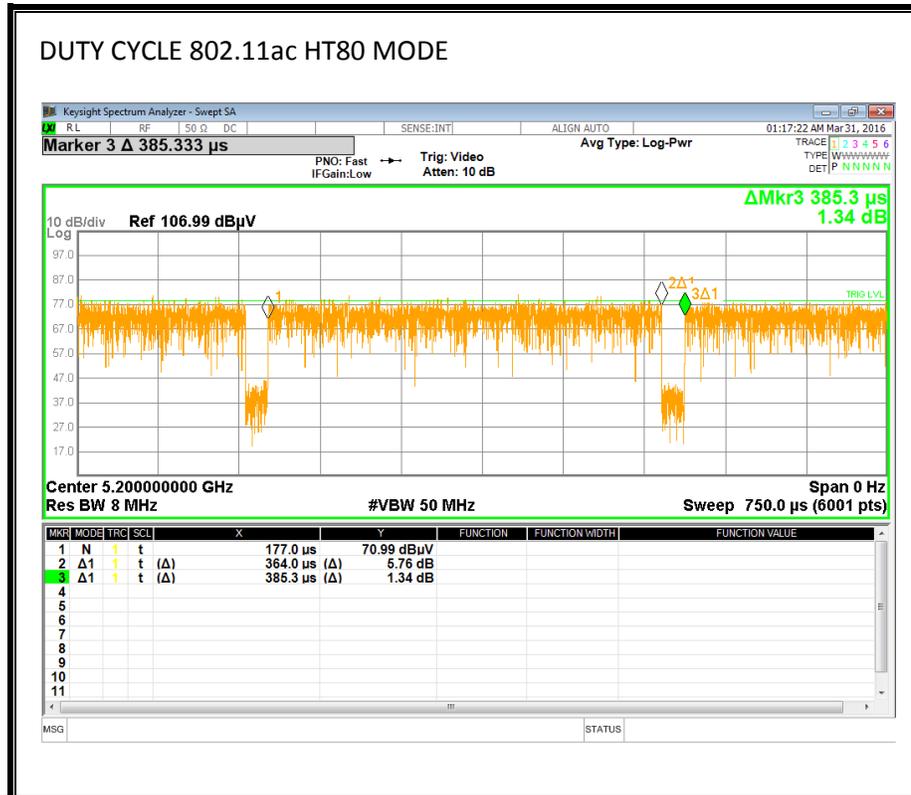
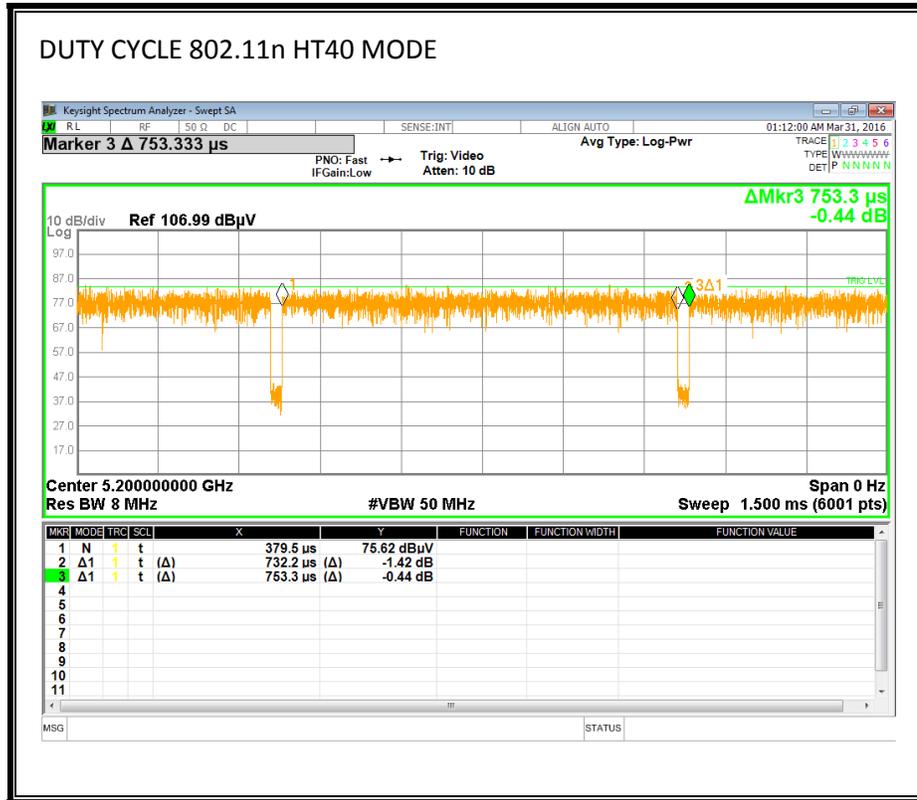
KDB 789033 D02 v01r02 Section 2 (b)

### 8.2. ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
802.11a	3.128	3.149	0.993	99.3%	0.00	0.010
802.11n HT20	1.476	1.497	0.986	98.6%	0.00	0.010
802.11n HT40	0.732	0.753	0.972	97.2%	0.12	1.366
802.11ac HT80	0.364	0.385	0.945	94.5%	0.24	2.747

### 8.3. DUTY CYCLE PLOTS





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## 8.4. 6 dB BANDWIDTH

### LIMITS

FCC §15.407

RSS-247 6.2.4

The minimum 6 dB bandwidth shall be at least 500 kHz.

### TEST PROCEDURE

KDB 789033 D02 v01r02 Section C (2)

### RESULTS

**8.4.1. 802.11a MODE IN THE 5.8 GHz BAND**

Channel	Frequency	6 dB Bandwidth CHAIN 0	6 dB Bandwidth CHAIN 1	Minimum Limit
	(MHz)	(MHz)	(MHz)	(MHz)
Low	5745	16.350	16.325	0.5
Mid	5785	16.325	16.400	0.5
High	5825	16.350	16.350	0.5

**8.4.2. 802.11n HT20 MODE IN THE 5.8 GHz BAND**

Channel	Frequency	6 dB Bandwidth CHAIN 0	6 dB Bandwidth CHAIN 1	Minimum Limit
	(MHz)	(MHz)	(MHz)	(MHz)
Low	5745	17.577	17.577	0.5
Mid	5785	17.523	17.604	0.5
High	5825	17.550	17.604	0.5

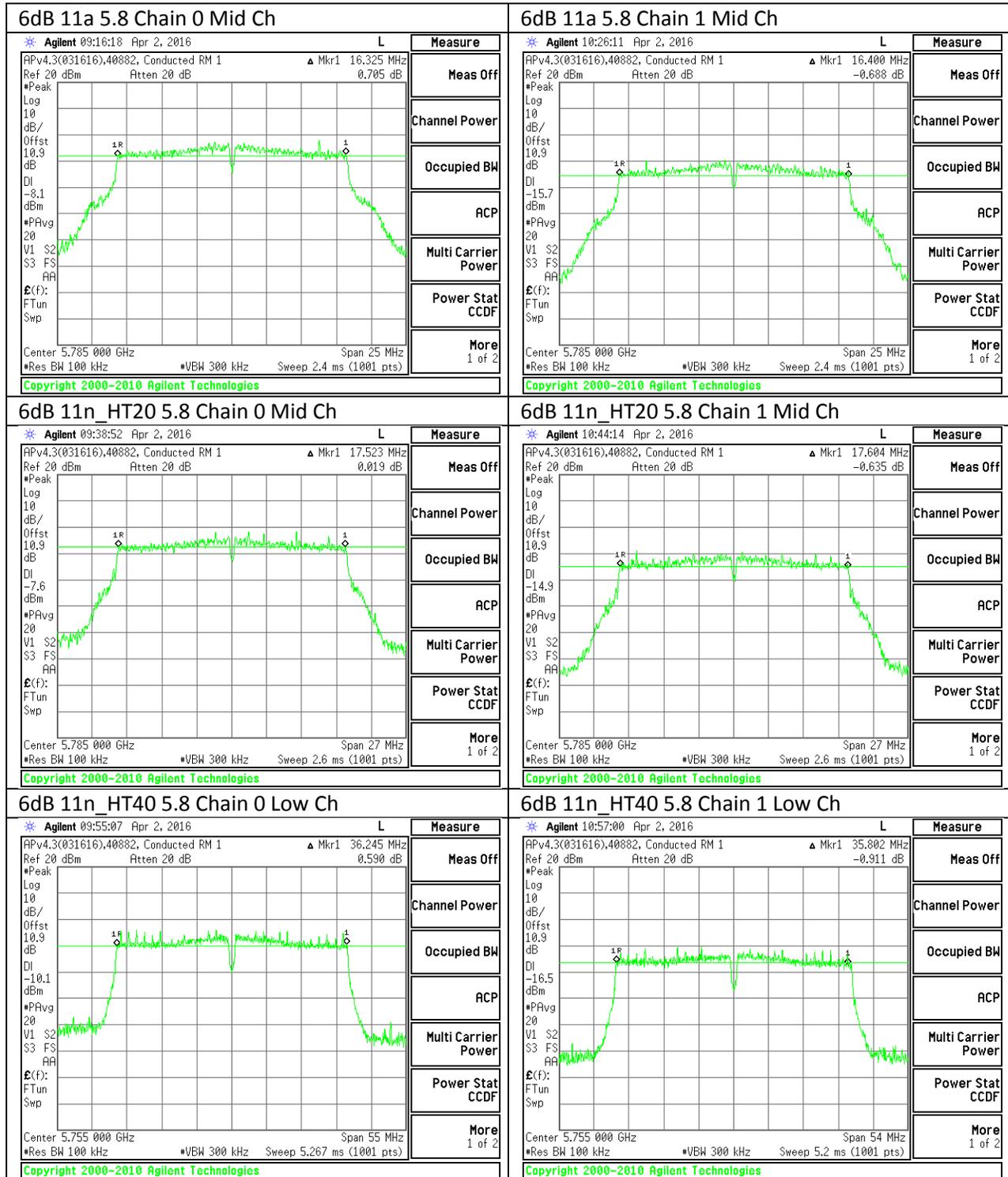
**8.4.3. 802.11n HT40 MODE IN THE 5.8 GHz BAND**

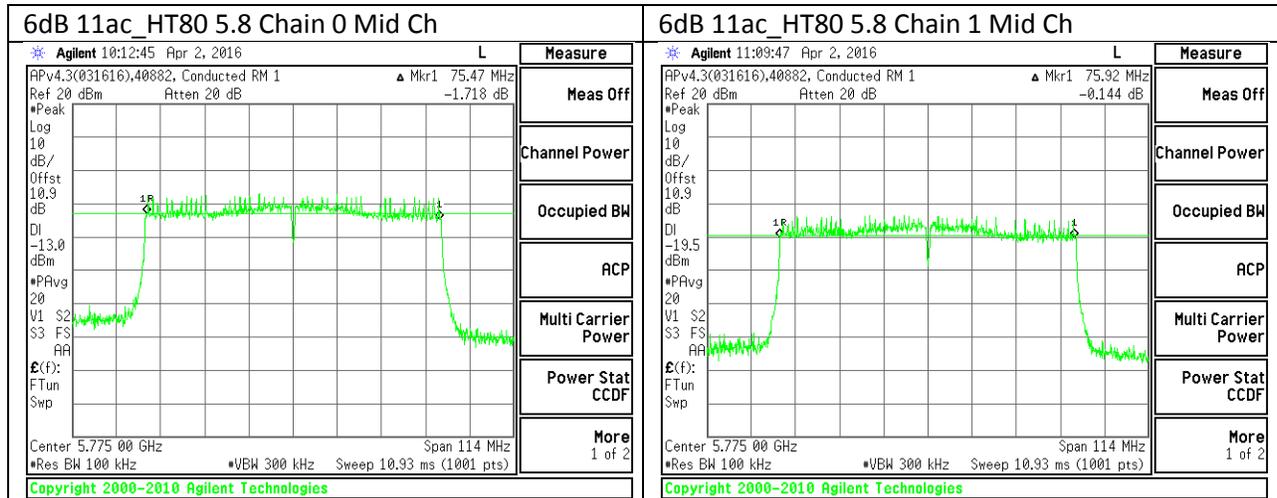
Channel	Frequency	6 dB Bandwidth CHAIN 0	6 dB Bandwidth CHAIN 1	Minimum Limit
	(MHz)	(MHz)	(MHz)	(MHz)
Low	5755	36.245	35.802	0.5
High	5795	36.355	36.355	0.5

**8.4.4. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND**

Channel	Frequency	6 dB Bandwidth CHAIN 0	6 dB Bandwidth CHAIN 1	Minimum Limit
	(MHz)	(MHz)	(MHz)	(MHz)
Low	5775	75.470	75.920	0.5

### 8.4.5. 6 dB BANDWIDTH MID CH PLOTS





## 8.5. 26 dB BANDWIDTH

### LIMITS

None; for reporting purposes only.

### TEST PROCEDURE

KDB 789033 D02 v01r02 Section C (1)

### RESULTS

#### 8.5.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5180	21.6150	21.5490
Mid	5200	21.5490	21.5490
High	5240	21.6480	21.5490

#### 8.5.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5180	21.7470	21.5160
Mid	5200	21.8460	21.5160
High	5240	21.7140	21.5160

#### 8.5.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5190	40.3210	39.8400
High	5230	40.4430	39.8400

#### 8.5.4. 802.11ac VHT80 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Mid	5210	82.4600	81.9180

**8.5.5. 802.11a MODE IN THE 5.3 GHz BAND**

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5260	21.5490	21.5160
Mid	5300	21.5160	21.4830
High	5320	21.5490	21.5160

**8.5.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND**

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5260	21.7800	21.6150
Mid	5300	21.8460	21.4830
High	5320	21.8790	21.5490

**8.5.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND**

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5270	40.2600	39.8400
High	5310	40.6260	39.6000

**8.5.8. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND**

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Mid	5290	82.3360	81.7950

**8.5.9. 802.11a MODE IN THE 5.5 GHz BAND**

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5500	21.5820	21.5490
Mid	5580	21.4830	21.6150
High	5700	21.5820	21.5160
144	5720	21.5160	21.5490

**8.5.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND**

Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5500	21.8790	21.5490
Mid	5580	21.7140	21.6150
High	5700	21.9780	21.4500
144	5720	21.7800	21.5160

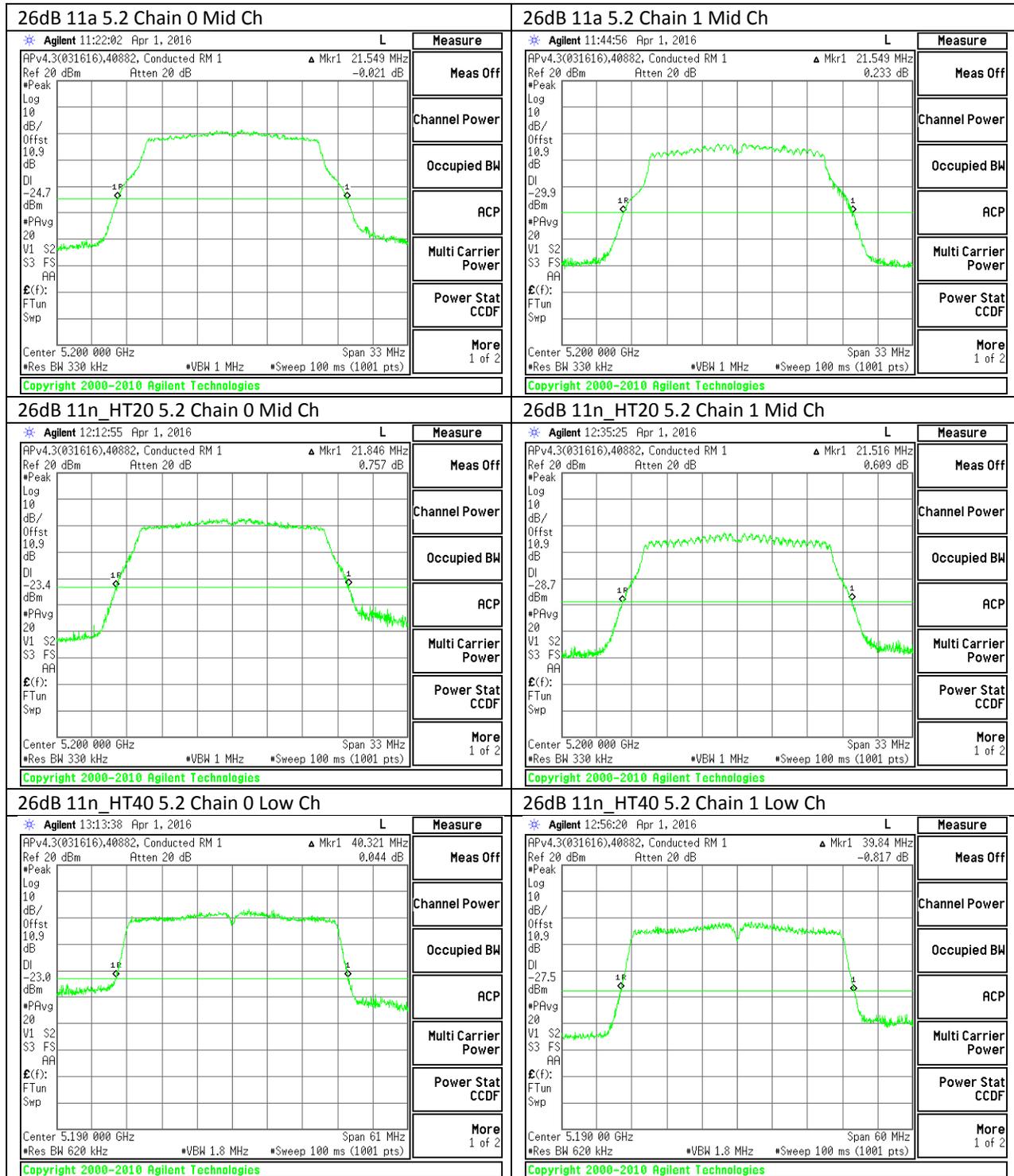
**8.5.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND**

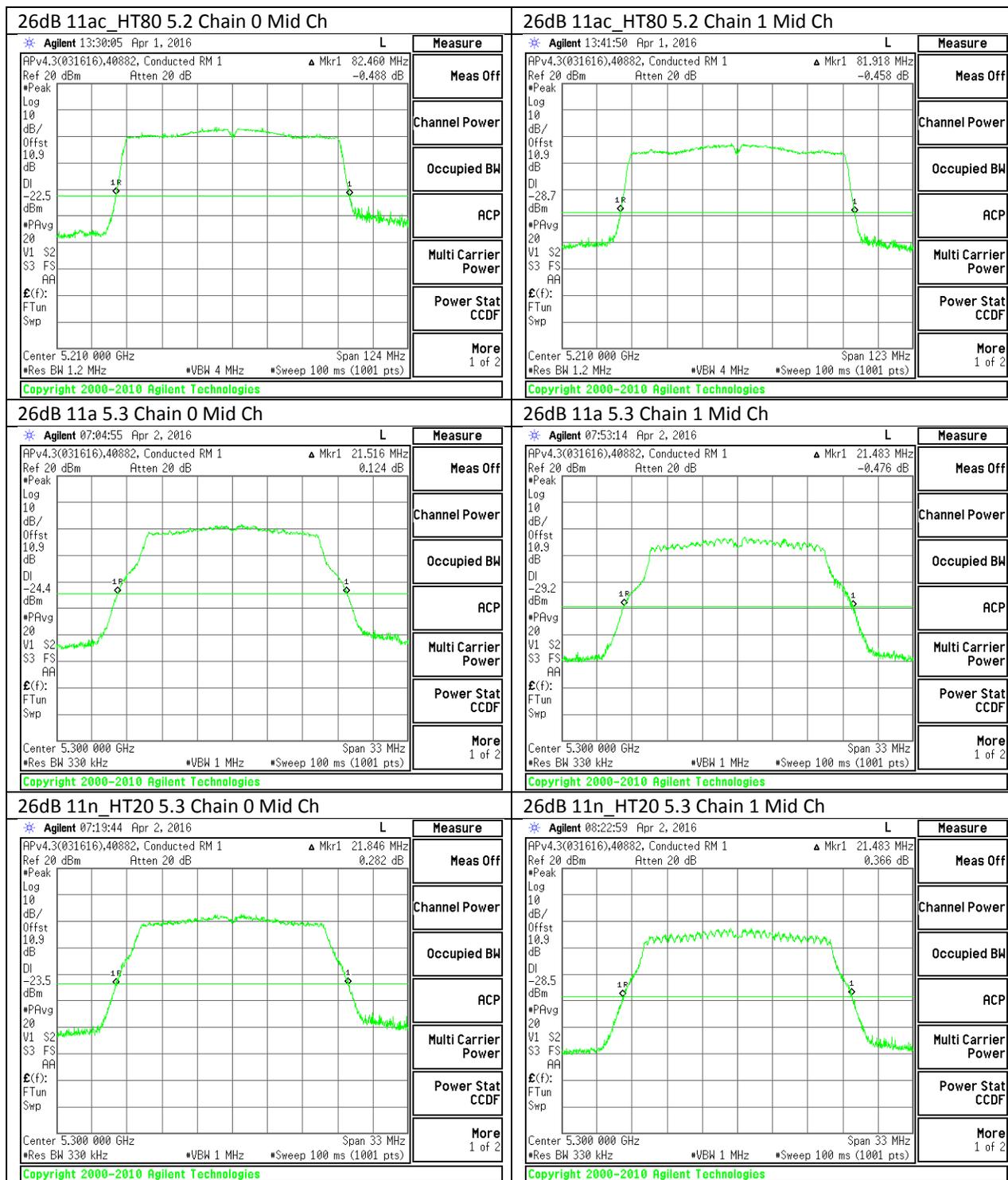
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5510	40.5650	39.8400
Mid	5550	40.6260	39.8400
High	5670	40.3820	39.7200
142	5710	40.4430	40.3210

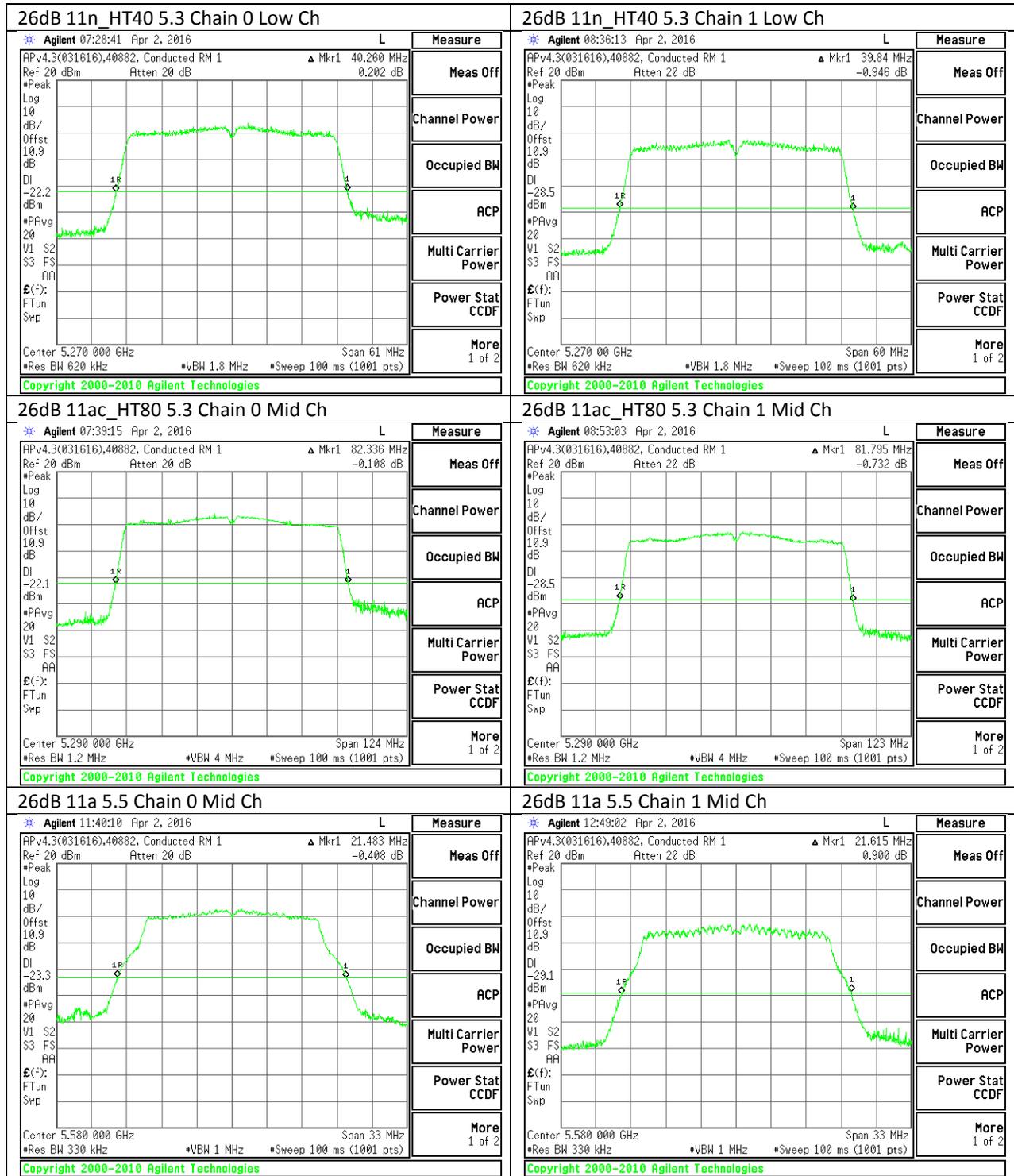
**8.5.12. 802.11ac VHT80 MODE IN THE 5.5 GHz BAND**

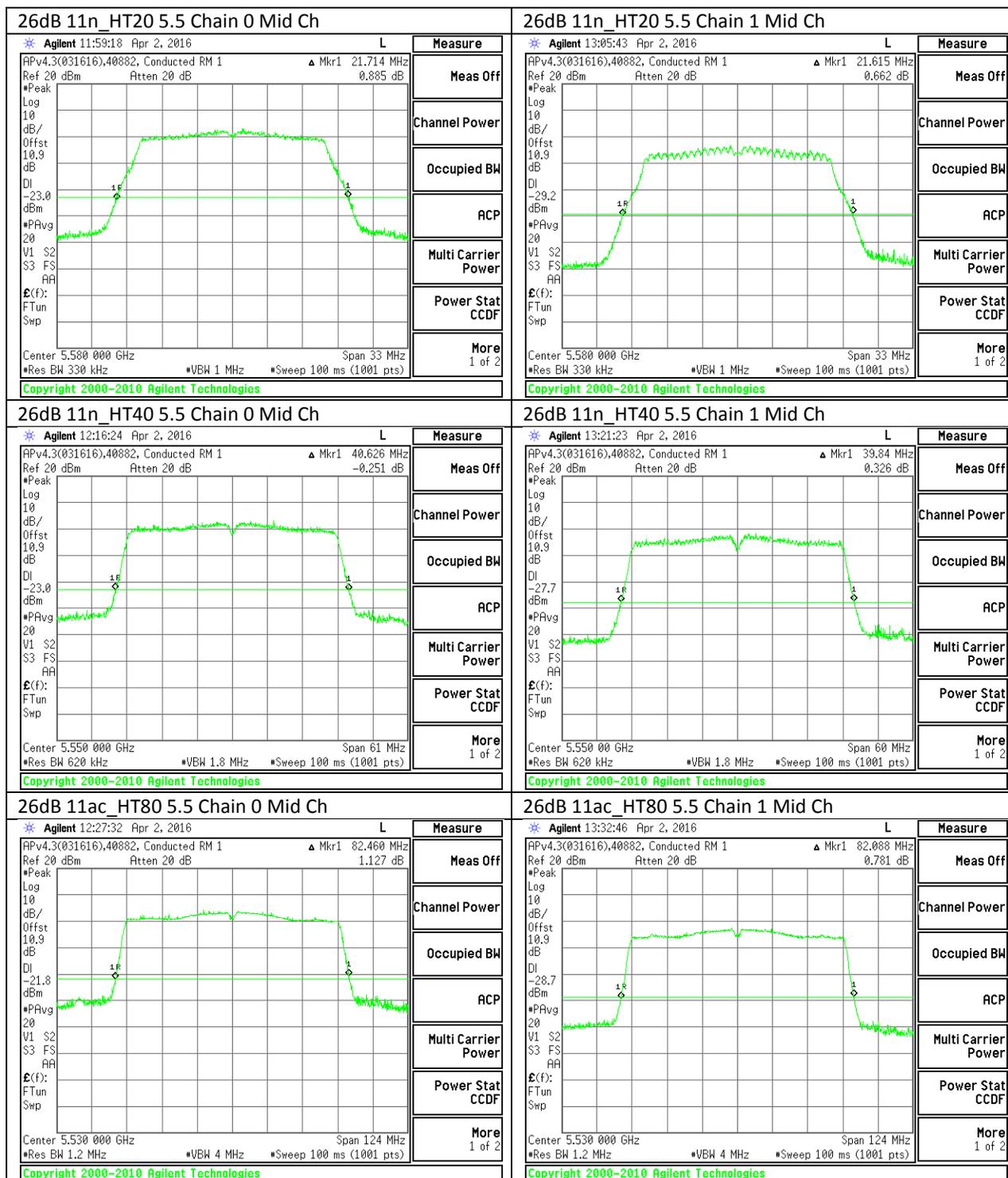
Channel	Frequency (MHz)	26 dB BW Chain 0 (MHz)	26 dB BW Chain 1 (MHz)
Low	5530	82.4600	82.0880
Mid	5610	82.4600	81.9180
138	5690	82.7500	82.4600

8.5.13. 26 dB BANDWIDTH PLOTS









## 8.6. 99% BANDWIDTH

### LIMITS

None; for reporting purposes only.

### TEST PROCEDURE

KDB 789033 D02 v01r02 Section D

### RESULTS

#### 8.6.1. 802.11a MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5180	16.4987	16.4908
Mid	5200	16.4865	16.5002
High	5240	16.4703	16.4790

#### 8.6.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5180	17.6740	17.6153
Mid	5200	17.6751	17.6706
High	5240	17.6383	17.6495

#### 8.6.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5190	36.2153	36.1199
High	5230	36.2529	36.2493

#### 8.6.4. 802.11ac VHT80 MODE IN THE 5.2 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Mid	5210	75.5886	75.7513

**8.6.5. 802.11a MODE IN THE 5.3 GHz BAND**

Channel	Frequency (MHz)	99% BW	
		Chain 0 (MHz)	Chain 1 (MHz)
Low	5260	16.4302	16.4826
Mid	5300	16.4542	16.4624
High	5320	16.4853	16.4745

**8.6.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND**

Channel	Frequency (MHz)	99% BW	
		Chain 0 (MHz)	Chain 1 (MHz)
Low	5260	17.6862	17.7016
Mid	5300	17.7244	17.6314
High	5320	17.6326	17.6369

**8.6.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND**

Channel	Frequency (MHz)	99% BW	
		Chain 0 (MHz)	Chain 1 (MHz)
Low	5270	36.1708	36.2521
High	5310	36.2510	36.2707

**8.6.8. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND**

Channel	Frequency (MHz)	99% BW	
		Chain 0 (MHz)	Chain 1 (MHz)
Mid	5290	75.2434	75.6815

**8.6.9. 802.11a MODE IN THE 5.5 GHz BAND**

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5500	16.5040	17.7523
Mid	5580	16.4845	17.6647
High	5700	16.5097	17.6730
144	5720	16.4796	16.4799

**8.6.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND**

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5500	17.6290	17.7121
Mid	5580	17.7205	17.7068
High	5700	17.6867	17.7052
144	5720	17.6654	17.6541

**8.6.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND**

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5510	36.2442	36.2744
Mid	5550	36.1392	36.2917
High	5670	36.2757	36.2075
142	5710	36.2197	36.3915

**8.6.12. 802.11ac VHT80 MODE IN THE 5.5 GHz BAND**

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5530	75.5987	75.5963
Mid	5610	75.6201	75.2705
138	5690	75.6733	75.8766

**8.6.13. 802.11a MODE IN THE 5.8 GHz BAND**

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5745	16.4700	16.4750
Mid	5785	16.4730	16.4616
High	5825	16.4989	16.4757

**8.6.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND**

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5745	17.6431	17.6958
Mid	5785	17.6820	17.5818
High	5825	17.7259	17.5365

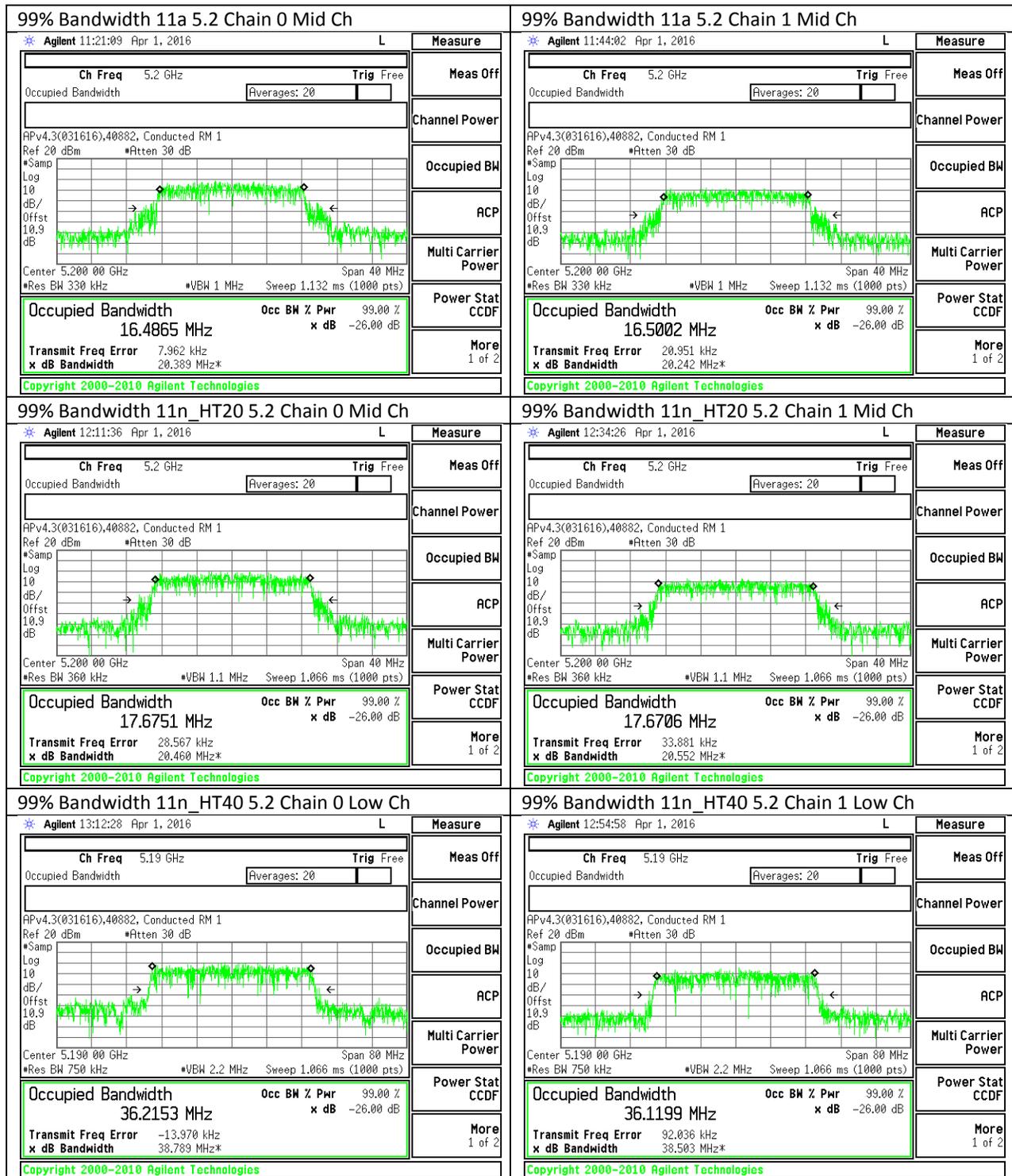
**8.6.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND**

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5755	36.2575	36.1966
High	5795	36.2800	36.3296

**8.6.16. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND**

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Mid	5775	75.6079	75.3727

8.6.17. 99% BANDWIDTH PLOTS

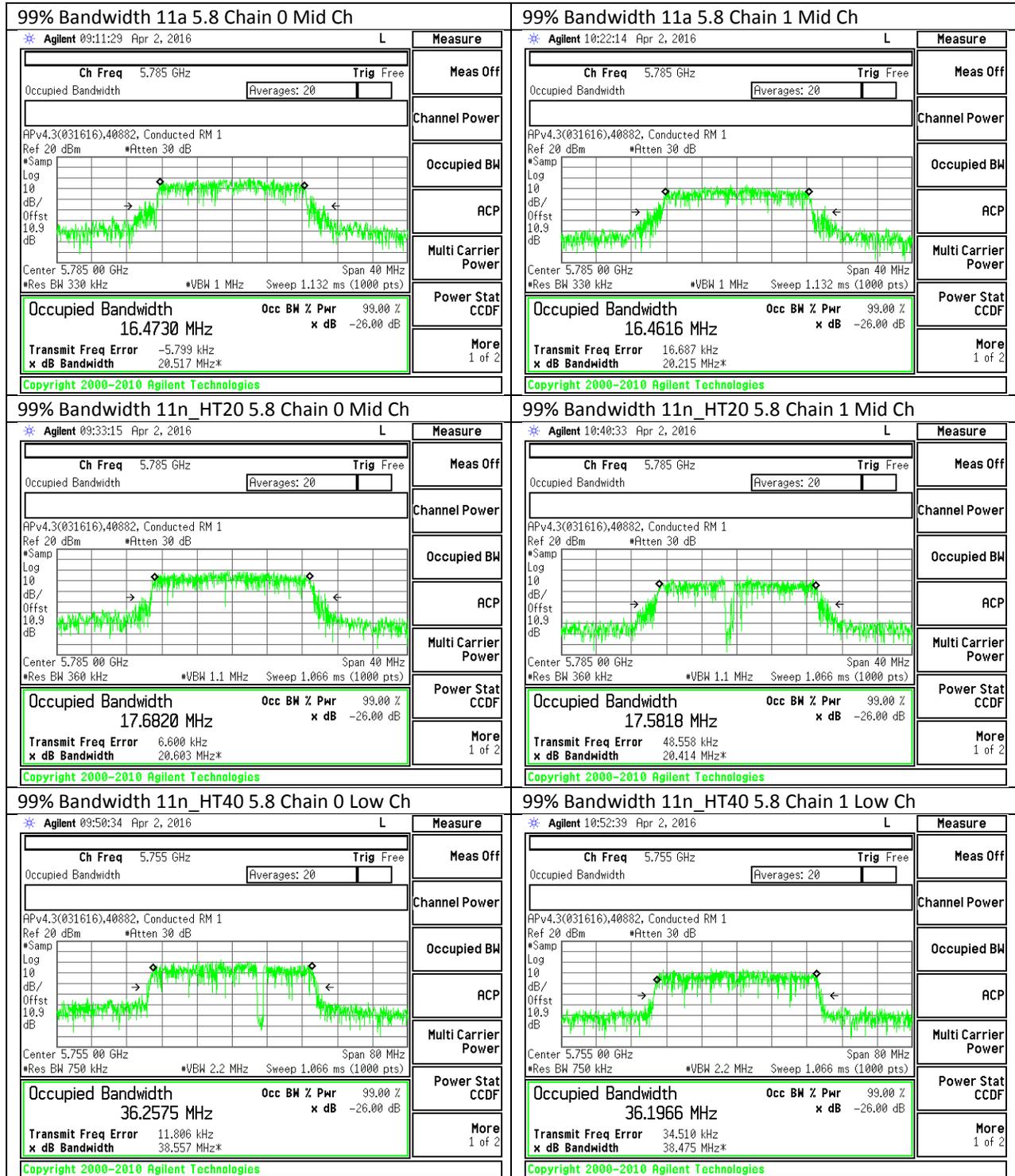


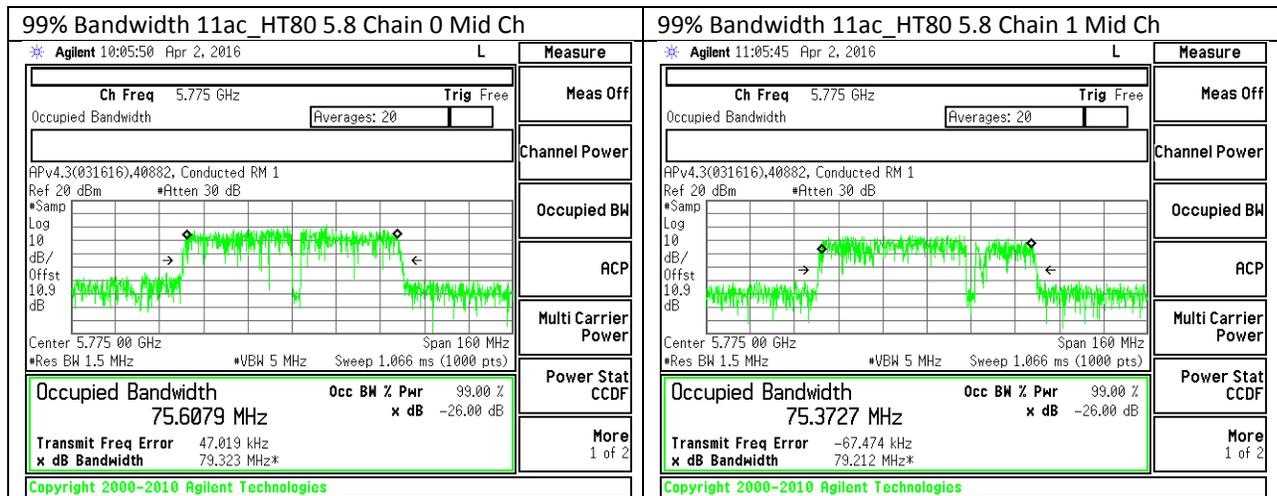


99% Bandwidth 11ac_HT80 5.2 Chain 0 Mid Ch		99% Bandwidth 11ac_HT80 5.2 Chain 1 Mid Ch	
<p>Agilent 13:27:19 Apr 1, 2016</p> <p>Ch Freq 5.21 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1</p> <p>Ref 20 dBm #Atten 30 dB</p> <p>Center 5.210 00 GHz Span 160 MHz</p> <p>#Res BW 1.5 MHz #VBW 5 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 75.5886 MHz</p> <p>Transmit Freq Error 132.473 kHz</p> <p>x dB Bandwidth 79.689 MHz*</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>	<p>Agilent 13:39:48 Apr 1, 2016</p> <p>Ch Freq 5.21 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1</p> <p>Ref 20 dBm #Atten 30 dB</p> <p>Center 5.210 00 GHz Span 160 MHz</p> <p>#Res BW 1.5 MHz #VBW 5 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 75.7513 MHz</p> <p>Transmit Freq Error 13.961 kHz</p> <p>x dB Bandwidth 79.363 MHz*</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>
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99% Bandwidth 11a 5.3 Chain 0 Mid Ch		99% Bandwidth 11a 5.3 Chain 1 Mid Ch	
<p>Agilent 07:03:31 Apr 2, 2016</p> <p>Ch Freq 5.3 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1</p> <p>Ref 20 dBm #Atten 30 dB</p> <p>Center 5.300 00 GHz Span 40 MHz</p> <p>#Res BW 330 kHz #VBW 1 MHz Sweep 1.132 ms (1000 pts)</p> <p>Occupied Bandwidth 16.4542 MHz</p> <p>Transmit Freq Error 12.032 kHz</p> <p>x dB Bandwidth 20.488 MHz*</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>	<p>Agilent 07:52:26 Apr 2, 2016</p> <p>Ch Freq 5.3 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1</p> <p>Ref 20 dBm #Atten 30 dB</p> <p>Center 5.300 00 GHz Span 40 MHz</p> <p>#Res BW 330 kHz #VBW 1 MHz Sweep 1.132 ms (1000 pts)</p> <p>Occupied Bandwidth 16.4624 MHz</p> <p>Transmit Freq Error 14.881 kHz</p> <p>x dB Bandwidth 20.050 MHz*</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>
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99% Bandwidth 11n_HT20 5.3 Chain 0 Mid Ch		99% Bandwidth 11n_HT20 5.3 Chain 1 Mid Ch	
<p>Agilent 07:18:58 Apr 2, 2016</p> <p>Ch Freq 5.3 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1</p> <p>Ref 20 dBm #Atten 30 dB</p> <p>Center 5.300 00 GHz Span 40 MHz</p> <p>#Res BW 360 kHz #VBW 1.1 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 17.7244 MHz</p> <p>Transmit Freq Error 11.826 kHz</p> <p>x dB Bandwidth 20.801 MHz*</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>	<p>Agilent 08:21:28 Apr 2, 2016</p> <p>Ch Freq 5.3 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1</p> <p>Ref 20 dBm #Atten 30 dB</p> <p>Center 5.300 00 GHz Span 40 MHz</p> <p>#Res BW 360 kHz #VBW 1.1 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 17.6314 MHz</p> <p>Transmit Freq Error -40.255 kHz</p> <p>x dB Bandwidth 20.522 MHz*</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>
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99% Bandwidth 11n_HT40 5.3 Chain 0 Low Ch		99% Bandwidth 11n_HT40 5.3 Chain 1 Low Ch	
<p>Agilent 07:27:53 Apr 2, 2016</p> <p>Ch Freq 5.27 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1                      Ref 20 dBm #Atten 30 dB</p> <p>Center 5.270 00 GHz Span 80 MHz                      #Res BW 750 kHz #VBW 2.2 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 36.1708 MHz                      Occ BW % Pwr 99.00 %                      x dB -26.00 dB</p> <p>Transmit Freq Error 64.053 kHz                      x dB Bandwidth 38.479 MHz*</p> <p>Copyright 2000-2010 Agilent Technologies</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>	<p>Agilent 08:35:10 Apr 2, 2016</p> <p>Ch Freq 5.27 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1                      Ref 20 dBm #Atten 30 dB</p> <p>Center 5.270 00 GHz Span 80 MHz                      #Res BW 750 kHz #VBW 2.2 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 36.2521 MHz                      Occ BW % Pwr 99.00 %                      x dB -26.00 dB</p> <p>Transmit Freq Error 33.976 kHz                      x dB Bandwidth 38.589 MHz*</p> <p>Copyright 2000-2010 Agilent Technologies</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>
99% Bandwidth 11ac_HT80 5.3 Chain 0 Mid Ch		99% Bandwidth 11ac_HT80 5.3 Chain 1 Mid Ch	
<p>Agilent 07:38:06 Apr 2, 2016</p> <p>Ch Freq 5.29 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1                      Ref 20 dBm #Atten 30 dB</p> <p>Center 5.290 00 GHz Span 160 MHz                      #Res BW 1.5 MHz #VBW 5 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 75.2434 MHz                      Occ BW % Pwr 99.00 %                      x dB -26.00 dB</p> <p>Transmit Freq Error -128.626 kHz                      x dB Bandwidth 79.322 MHz*</p> <p>Copyright 2000-2010 Agilent Technologies</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>	<p>Agilent 08:51:42 Apr 2, 2016</p> <p>Ch Freq 5.29 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1                      Ref 20 dBm #Atten 30 dB</p> <p>Center 5.290 00 GHz Span 160 MHz                      #Res BW 1.5 MHz #VBW 5 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 75.6815 MHz                      Occ BW % Pwr 99.00 %                      x dB -26.00 dB</p> <p>Transmit Freq Error -14.725 kHz                      x dB Bandwidth 79.298 MHz*</p> <p>Copyright 2000-2010 Agilent Technologies</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>
99% Bandwidth 11a 5.5 Chain 0 Mid Ch		99% Bandwidth 11a 5.5 Chain 1 Mid Ch	
<p>Agilent 11:39:05 Apr 2, 2016</p> <p>Ch Freq 5.58 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1                      Ref 20 dBm #Atten 30 dB</p> <p>Center 5.580 00 GHz Span 40 MHz                      #Res BW 330 kHz #VBW 1 MHz Sweep 1.132 ms (1000 pts)</p> <p>Occupied Bandwidth 16.4845 MHz                      Occ BW % Pwr 99.00 %                      x dB -26.00 dB</p> <p>Transmit Freq Error 24.430 kHz                      x dB Bandwidth 20.064 MHz*</p> <p>Copyright 2000-2010 Agilent Technologies</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>	<p>Agilent 12:48:09 Apr 2, 2016</p> <p>Ch Freq 5.58 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1                      Ref 20 dBm #Atten 30 dB</p> <p>Center 5.580 00 GHz Span 40 MHz                      #Res BW 360 kHz #VBW 1.1 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 17.6647 MHz                      Occ BW % Pwr 99.00 %                      x dB -26.00 dB</p> <p>Transmit Freq Error 10.459 kHz                      x dB Bandwidth 20.540 MHz*</p> <p>Copyright 2000-2010 Agilent Technologies</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>

99% Bandwidth 11n_HT20 5.5 Chain 0 Mid Ch		99% Bandwidth 11n_HT20 5.5 Chain 1 Mid Ch	
<p>Agilent 11:58:03 Apr 2, 2016</p> <p>Ch Freq 5.58 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1                      Ref 20 dBm #Atten 30 dB</p> <p>Center 5.580 00 GHz Span 40 MHz                      #Res BW 360 kHz #VBW 1.1 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 17.7205 MHz                      Occ BW % Pwr 99.00 %                      x dB -26.00 dB</p> <p>Transmit Freq Error 16.684 kHz                      x dB Bandwidth 20.665 MHz*</p> <p>Copyright 2000-2010 Agilent Technologies</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>	<p>Agilent 13:04:47 Apr 2, 2016</p> <p>Ch Freq 5.58 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1                      Ref 20 dBm #Atten 30 dB</p> <p>Center 5.580 00 GHz Span 40 MHz                      #Res BW 360 kHz #VBW 1.1 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 17.7068 MHz                      Occ BW % Pwr 99.00 %                      x dB -26.00 dB</p> <p>Transmit Freq Error 9.882 kHz                      x dB Bandwidth 20.547 MHz*</p> <p>Copyright 2000-2010 Agilent Technologies</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>
99% Bandwidth 11n_HT40 5.5 Chain 0 Mid Ch		99% Bandwidth 11n_HT40 5.5 Chain 1 Mid Ch	
<p>Agilent 12:15:35 Apr 2, 2016</p> <p>Ch Freq 5.55 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1                      Ref 20 dBm #Atten 30 dB</p> <p>Center 5.550 00 GHz Span 80 MHz                      #Res BW 750 kHz #VBW 2.2 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 36.1392 MHz                      Occ BW % Pwr 99.00 %                      x dB -26.00 dB</p> <p>Transmit Freq Error -12.284 kHz                      x dB Bandwidth 38.613 MHz*</p> <p>Copyright 2000-2010 Agilent Technologies</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>	<p>Agilent 13:20:23 Apr 2, 2016</p> <p>Ch Freq 5.55 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1                      Ref 20 dBm #Atten 30 dB</p> <p>Center 5.550 00 GHz Span 80 MHz                      #Res BW 750 kHz #VBW 2.2 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 36.2917 MHz                      Occ BW % Pwr 99.00 %                      x dB -26.00 dB</p> <p>Transmit Freq Error 19.364 kHz                      x dB Bandwidth 38.569 MHz*</p> <p>Copyright 2000-2010 Agilent Technologies</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>
99% Bandwidth 11ac_HT80 5.2 Chain 0 Mid Ch		99% Bandwidth 11ac_HT80 5.2 Chain 1 Mid Ch	
<p>Agilent 12:26:31 Apr 2, 2016</p> <p>Ch Freq 5.53 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1                      Ref 20 dBm #Atten 30 dB</p> <p>Center 5.530 00 GHz Span 160 MHz                      #Res BW 1.5 MHz #VBW 5 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 75.5987 MHz                      Occ BW % Pwr 99.00 %                      x dB -26.00 dB</p> <p>Transmit Freq Error -80.178 kHz                      x dB Bandwidth 79.394 MHz*</p> <p>Copyright 2000-2010 Agilent Technologies</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>	<p>Agilent 13:31:43 Apr 2, 2016</p> <p>Ch Freq 5.53 GHz Trig Free</p> <p>Occupied Bandwidth Averages: 20</p> <p>APv4.3(031616),40082, Conducted RM 1                      Ref 20 dBm #Atten 30 dB</p> <p>Center 5.530 00 GHz Span 160 MHz                      #Res BW 1.5 MHz #VBW 5 MHz Sweep 1.066 ms (1000 pts)</p> <p>Occupied Bandwidth 75.5963 MHz                      Occ BW % Pwr 99.00 %                      x dB -26.00 dB</p> <p>Transmit Freq Error 60.481 kHz                      x dB Bandwidth 79.323 MHz*</p> <p>Copyright 2000-2010 Agilent Technologies</p>	<p>Measure</p> <p>Meas Off</p> <p>Channel Power</p> <p>Occupied BW</p> <p>ACP</p> <p>Multi Carrier Power</p> <p>Power Stat CCDF</p> <p>More 1 of 2</p>





## 8.7. OUTPUT POWER AND PSD

### LIMITS

#### FCC §15.407 (a) (1)

For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### FCC §15.407 (a) (2)

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or  $11 \text{ dBm} + 10 \log B$ , where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### FCC §15.407 (a) (3)

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.



## **RSS-247**

### **Band 5150-5250 MHz:**

The maximum e.i.r.p. shall not exceed 200 mW or  $10 + 10 \log_{10} B$ , dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

### **Band 5250-5350 MHz:**

The maximum conducted output power shall not exceed 250 mW or  $11 + 10 \log_{10} B$ , dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band. The maximum e.i.r.p. shall not exceed 1.0 W or  $17 + 10 \log_{10} B$ , dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

### **Bands 5470-5600 MHz and 5650-5725 MHz:**

The maximum conducted output power shall not exceed 250 mW or  $11 + 10 \log_{10} B$ , dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band. The maximum e.i.r.p. shall not exceed 1.0 W or  $17 + 10 \log_{10} B$ , dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

### **Band 5725-5850 MHz:**

The maximum conducted output power shall not exceed 1 W. The power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint<sup>Footnote3</sup> systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

## **TEST PROCEDURE**

### **Maximum Output Power**

KDB 789033 D02 v01r02 Section E (b) Method PM-G (Measurement using a gated RF average power meter)

### **Power Spectral Density**

KDB 789033 D02 v01r02 Section F



**DIRECTIONAL ANTENNA GAIN**

The uncorrelated chain directional gain is:

**5180-5240**

<b>Chain 0 Antenna Gain (dBi)</b>	<b>Chain 1 Antenna Gain (dBi)</b>	<b>Uncorrelated Chains Directional Gain (dBi)</b>
-4.20	-4.20	-4.20

**5260-5320**

<b>Chain 0 Antenna Gain (dBi)</b>	<b>Chain 1 Antenna Gain (dBi)</b>	<b>Uncorrelated Chains Directional Gain (dBi)</b>
-4.20	-4.20	-4.20

**5500-5700**

<b>Chain 0 Antenna Gain (dBi)</b>	<b>Chain 1 Antenna Gain (dBi)</b>	<b>Uncorrelated Chains Directional Gain (dBi)</b>
-6.00	-3.20	-4.38

**5745-5825**

<b>Chain 0 Antenna Gain (dBi)</b>	<b>Chain 1 Antenna Gain (dBi)</b>	<b>Uncorrelated Chains Directional Gain (dBi)</b>
-5.70	-5.40	-5.55

The correlated chain directional gain is:

**5180-5240**

<b>Chain 0 Antenna Gain (dBi)</b>	<b>Chain 1 Antenna Gain (dBi)</b>	<b>Correlated Chains Directional Gain (dBi)</b>
-4.20	-4.20	-1.19

**5260-5300**

<b>Chain 0 Antenna Gain (dBi)</b>	<b>Chain 1 Antenna Gain (dBi)</b>	<b>Correlated Chains Directional Gain (dBi)</b>
-4.20	-4.20	-1.19

**5550-5700**

<b>Chain 0 Antenna Gain (dBi)</b>	<b>Chain 1 Antenna Gain (dBi)</b>	<b>Correlated Chains Directional Gain (dBi)</b>
-6.00	-3.20	-1.48

**5745-5825**

<b>Chain 0 Antenna Gain (dBi)</b>	<b>Chain 1 Antenna Gain (dBi)</b>	<b>Correlated Chains Directional Gain (dBi)</b>
-5.70	-5.40	-2.54

**RESULTS**

**8.7.1. 802.11a MODE IN THE 5.2 GHz BAND**

**Antenna Gain and Limits**

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5180	-4.20	-1.19	24.00	11.00
Mid	5200	-4.20	-1.19	24.00	11.00
High	5240	-4.20	-1.19	24.00	11.00

<b>Duty Cycle CF (dB)</b>	0.00	<b>Included in Calculations of Corr'd PSD</b>
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**Output Power Results**

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	10.40	4.60	11.41	24.00	-12.59
Mid	5200	10.20	4.50	11.24	24.00	-12.76
High	5240	10.30	4.40	11.29	24.00	-12.71

**PSD Results**

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5180	-1.793	-7.484	-0.76	11.00	-11.76
Mid	5200	-2.212	-7.666	-1.12	11.00	-12.12
High	5240	-2.039	-7.722	-1.00	11.00	-12.00

**Note:** the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

**8.7.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND**

**Antenna Gain and Limits**

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5180	-4.20	-1.19	24.00	11.00
Mid	5200	-4.20	-1.19	24.00	11.00
High	5240	-4.20	-1.19	24.00	11.00

<b>Duty Cycle CF (dB)</b>	0.00	<b>Included in Calculations of Corr'd PSD</b>
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**Output Power Results**

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	10.30	4.50	11.31	24.00	-12.69
Mid	5200	10.20	4.60	11.26	24.00	-12.74
High	5240	10.50	4.50	11.47	24.00	-12.53

**PSD Results**

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5180	-0.890	-7.301	0.00	11.00	-11.00
Mid	5200	0.588	-7.409	1.23	11.00	-9.77
High	5240	-0.064	-7.254	0.70	11.00	-10.30

**Note:** the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

**8.7.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND**

**Antenna Gain and Limits**

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Low	5190	-4.20	-1.19	24.00	11.00
High	5230	-4.20	-1.19	24.00	11.00

<b>Duty Cycle CF (dB)</b>	0.12	<b>Included in Calculations of Corr'd PSD</b>
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**Output Power Results**

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5190	10.70	4.90	11.71	24.00	-12.29
High	5230	10.60	4.90	11.64	24.00	-12.36

**PSD Results**

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5190	-3.900	-9.629	-2.75	11.00	-13.75
High	5230	-3.922	-10.015	-2.85	11.00	-13.85

**Note:** the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

**8.7.4. 802.11ac VHT80 MODE IN THE 5.2 GHZ BAND**

**Antenna Gain and Limits**

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm)
Mid	5210	-4.20	-1.19	24.00	11.00

<b>Duty Cycle CF (dB)</b>	0.25	<b>Included in Calculations of Corr'd PSD</b>
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**Output Power Results**

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5210	11.00	4.40	11.86	24.00	-12.14

**PSD Results**

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5210	-7.373	-13.477	-6.17	11.00	-17.17

**Note:** the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

### 8.7.5. 802.11a MODE IN THE 5.3 GHz BAND

#### Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5260	21.5160	16.4302	-4.20	-1.19
Mid	5300	21.4830	16.4542	-4.20	-1.19
High	5320	21.5160	16.4745	-4.20	-1.19

#### Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5260	24.00	23.16	29.16	23.16	11.00	11.00	11.00
Mid	5300	24.00	23.16	29.16	23.16	11.00	11.00	11.00
High	5320	24.00	23.17	29.17	23.17	11.00	11.00	11.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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#### Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	10.20	4.30	11.19	23.16	-11.96
Mid	5300	10.10	4.20	11.09	23.16	-12.07
High	5320	10.00	4.30	11.04	23.17	-12.13

#### PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5260	-1.968	-7.422	-0.88	11.00	-11.88
Mid	5300	-1.971	-7.384	-0.87	11.00	-11.87
High	5320	-1.965	-7.577	-0.91	11.00	-11.91

**Note:** the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

### 8.7.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

#### Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5260	21.6150	17.6862	-4.20	-1.19
Mid	5300	21.4830	17.6314	-4.20	-1.19
High	5320	21.5490	17.6326	-4.20	-1.19

#### Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5260	24.00	23.48	29.48	23.48	11.00	11.00	11.00
Mid	5300	24.00	23.46	29.46	23.46	11.00	11.00	11.00
High	5320	24.00	23.46	29.46	23.46	11.00	11.00	11.00

<b>Duty Cycle CF (dB)</b>	0.00	<b>Included in Calculations of Corr'd PSD</b>
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#### Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5260	9.90	4.30	10.96	23.48	-12.52
Mid	5300	9.80	4.40	10.90	23.46	-12.56
High	5320	9.70	4.30	10.80	23.46	-12.66

#### PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5260	-0.861	-7.634	-0.03	11.00	-11.03
Mid	5300	-1.254	-7.524	-0.33	11.00	-11.33
High	5320	-1.367	-7.810	-0.48	11.00	-11.48

**Note:** the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

### 8.7.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

#### Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5270	39.8400	36.1708	-4.20	-1.19
High	5310	39.6000	36.2510	-4.20	-1.19

#### Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5270	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5310	24.00	24.00	30.00	24.00	11.00	11.00	11.00

<b>Duty Cycle CF (dB)</b>	0.12	<b>Included in Calculations of Corr'd PSD</b>
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#### Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5270	10.70	4.50	11.63	24.00	-12.37
High	5310	10.70	4.40	11.61	24.00	-12.39

#### PPSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5270	-3.682	-10.374	-2.72	11.00	-13.72
High	5310	-3.835	-10.468	-2.86	11.00	-13.86

**Note:** the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

**8.7.8. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND**

**Bandwidth and Antenna Gain**

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Mid	5290	81.7950	75.2434	-4.20	-1.19

**Limits**

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Mid	5290	24.00	24.00	30.00	24.00	11.00	11.00	11.00

<b>Duty Cycle CF (dB)</b>	0.25	<b>Included in Calculations of Corr'd PSD</b>
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**Output Power Results**

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5290	10.50	4.20	11.41	24.00	-12.59

**PSD Results**

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5290	1.003	-13.581	1.40	11.00	-9.60

**Note:** the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

### 8.7.9. 802.11a MODE IN THE 5.5 GHz BAND

#### Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5500	21.549	16.5040	-4.38	-1.48
Mid	5580	21.483	16.4845	-4.38	-1.48
High	5700	21.516	16.5097	-4.38	-1.48
144	5720	21.516	16.4796	-4.38	-1.48

#### Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5500	24.00	23.18	29.18	23.18	11.00	11.00	11.00
Mid	5580	24.00	23.17	29.17	23.17	11.00	11.00	11.00
High	5700	24.00	23.18	29.18	23.18	11.00	11.00	11.00
144	5720	24.00	23.17	29.17	23.17	11.00	11.00	11.00

<b>Duty Cycle CF (dB)</b>	0.00	<b>Included in Calculations of Corr'd PSD</b>
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#### Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	10.20	4.30	11.19	23.18	-11.98
Mid	5580	10.50	4.50	11.47	23.17	-11.70
High	5700	10.40	4.60	11.41	23.18	-11.76
144	5720	10.40	4.80	11.46	23.17	-11.71

#### PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5500	-0.774	-7.672	0.033	11.00	-10.97
Mid	5580	-0.538	-7.778	0.213	11.00	-10.79
High	5700	-0.521	-6.990	0.362	11.00	-10.64
144	5720	-0.733	-6.958	0.196	11.00	-10.80

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

### 8.7.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

#### Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5500	21.549	17.6290	-4.38	-1.48
Mid	5580	21.615	17.7068	-4.38	-1.48
High	5700	21.450	17.6867	-4.38	-1.48
144	5720	21.516	17.6541	-4.38	-1.48

#### Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5500	24.00	23.46	29.46	23.46	11.00	11.00	11.00
Mid	5580	24.00	23.48	29.48	23.48	11.00	11.00	11.00
High	5700	24.00	23.48	29.48	23.48	11.00	11.00	11.00

<b>Duty Cycle CF (dB)</b>	0.00	<b>Included in Calculations of Corr'd PSD</b>
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#### Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	10.40	4.30	11.35	23.46	-12.11
Mid	5580	10.40	4.50	11.39	23.48	-12.09
High	5700	10.20	4.70	11.28	23.48	-12.20
144	5720	10.30	4.50	11.31	23.47	-12.15

#### PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5500	-0.902	-7.708	-0.079	11.00	-11.08
Mid	5580	-0.991	-8.053	-0.211	11.00	-11.21
High	5700	-0.600	-8.113	0.109	11.00	-10.89
144	5720	-1.300	-7.277	-0.322	11.00	-11.32

Note: the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

### 8.7.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

#### Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5510	39.840	36.2442	-4.38	-1.48
Mid	5550	39.840	36.1392	-4.38	-1.48
High	5670	39.720	36.2075	-4.38	-1.48
142	5710	40.321	36.2197	-4.38	-1.48

#### Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5510	24.00	24.00	30.00	24.00	11.00	11.00	11.00
Mid	5550	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5670	24.00	24.00	30.00	24.00	11.00	11.00	11.00
142	5710	24.00	24.00	30.00	24.00	11.00	11.00	11.00

<b>Duty Cycle CF (dB)</b>	0.12	<b>Included in Calculations of Corr'd PSD</b>
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#### Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	11.10	5.30	12.11	24.00	-11.89
Mid	5550	10.25	3.99	11.17	24.00	-12.83
High	5670	10.38	4.32	11.34	24.00	-12.66
142	5710	11.00	5.40	12.06	24.00	-11.94

#### PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5510	-3.754	-9.497	-2.61	11.00	-13.61
Mid	5550	-3.721	-10.073	-2.70	11.00	-13.70
High	5670	-2.920	-9.591	-1.95	11.00	-12.95
142	5710	-3.272	-10.640	-2.42	11.00	-13.42

**Note:** the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

### 8.7.12. 802.11ac VHT80 MODE IN THE 5.5 GHz BAND

#### Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5530	82.088	75.5963	-4.38	-1.48
High	5610	81.918	75.2705	-4.38	-1.48
138	5690	82.460	75.6733	-4.38	-1.48

#### Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm)	IC PSD Limit (dBm)	PSD Limit (dBm)
Low	5530	24.00	24.00	30.00	24.00	11.00	11.00	11.00
High	5610	24.00	24.00	30.00	24.00	11.00	11.00	11.00
138	5690	24.00	24.00	30.00	24.00	11.00	11.00	11.00

<b>Duty Cycle CF (dB)</b>	0.25	<b>Included in Calculations of Corr'd PSD</b>
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#### Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	10.70	5.20	11.78	24.00	-12.22
High	5610	10.70	5.30	11.80	24.00	-12.20
138	5690	10.90	5.30	11.96	24.00	-12.04

#### PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5530	-6.526	-13.343	-5.455	11.00	-16.45
High	5610	-6.037	-12.705	-4.940	11.00	-15.94
138	5690	-6.493	-12.201	-5.210	11.00	-16.21

**Note:** the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

**8.7.13. 802.11a MODE IN THE 5.8 GHz BAND**

**Antenna Gain and Limit**

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBm)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
Low	5745	-5.55	-2.54	30.00	30.00
Mid	5785	-5.55	-2.54	30.00	30.00
High	5825	-5.55	-2.54	30.00	30.00

<b>Duty Cycle CF (dB)</b>	0.00	<b>Included in Calculations of Corr'd PSD</b>
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**Output Power Results**

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	10.50	3.40	11.27	30.00	-18.73
Mid	5785	10.40	3.30	11.17	30.00	-18.83
High	5825	10.10	3.20	10.91	30.00	-19.09

**PSD Results**

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	-3.317	-10.168	-2.502	30.00	-32.50
Mid	5785	-3.384	-10.469	-2.608	30.00	-32.61
High	5825	-2.817	-10.268	-2.099	30.00	-32.10

**Note:** the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

**8.7.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND**

**Antenna Gain and Limit**

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBm)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
Low	5745	-5.55	-2.54	30.00	30.00
Mid	5785	-5.55	-2.54	30.00	30.00
High	5825	-5.55	-2.54	30.00	30.00

<b>Duty Cycle CF (dB)</b>	0.00	<b>Included in Calculations of Corr'd PSD</b>
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**Output Power Results**

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5745	10.10	3.30	10.92	30.00	-19.08
Mid	5785	10.30	3.40	11.11	30.00	-18.89
High	5825	10.40	3.50	11.21	30.00	-18.79

**PSD Results**

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5745	-3.526	-10.901	-2.796	30.00	-32.80
Mid	5785	-3.656	-10.533	-2.845	30.00	-32.85
High	5825	-3.260	-10.562	-2.519	30.00	-32.52

**Note:** the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

**8.7.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND**

**Antenna Gain and Limit**

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBm)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
Low	5755	-5.55	-2.54	30.00	30.00
High	5795	-5.55	-2.54	30.00	30.00

<b>Duty Cycle CF (dB)</b>	0.12	<b>Included in Calculations of Corr'd PSD</b>
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**Output Power Results**

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5755	11.30	4.40	12.11	30.00	-17.89
High	5795	11.20	4.10	11.97	30.00	-18.03

**PSD Results**

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Low	5755	-5.936	-12.869	-5.015	30.00	-35.01
High	5795	-5.809	-12.628	-4.868	30.00	-34.87

**Note:** the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

**8.7.16. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND**

**Antenna Gain and Limit**

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBm)	FCC/IC Power Limit (dBm)	FCC/IC PSD Limit (dBm)
Mid	5775	-5.55	-2.54	30.00	30.00

<b>Duty Cycle CF (dB)</b>	0.25	<b>Included in Calculations of Corr'd PSD</b>
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**Output Power Results**

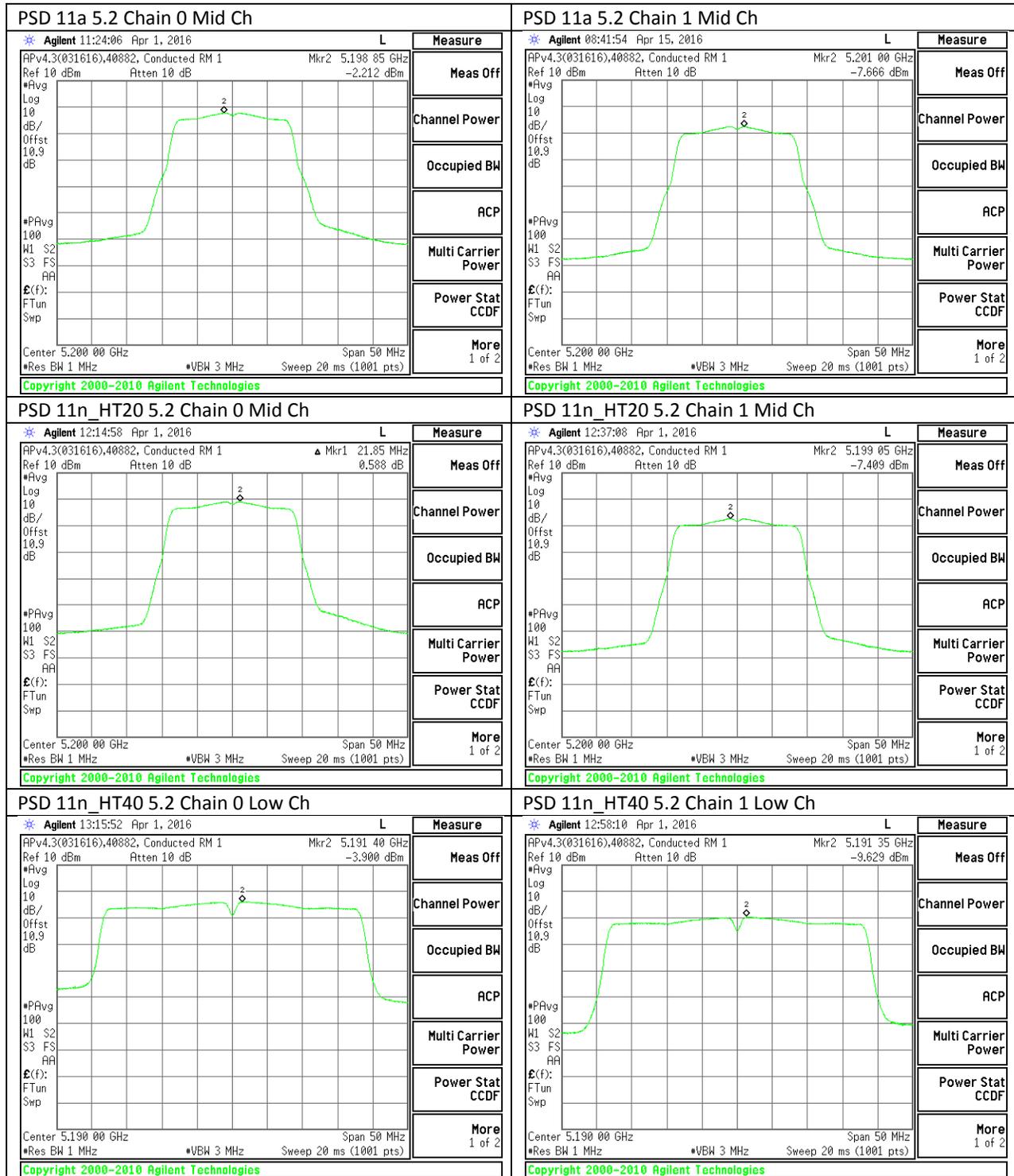
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5775	10.50	3.90	11.61	30.00	-18.39

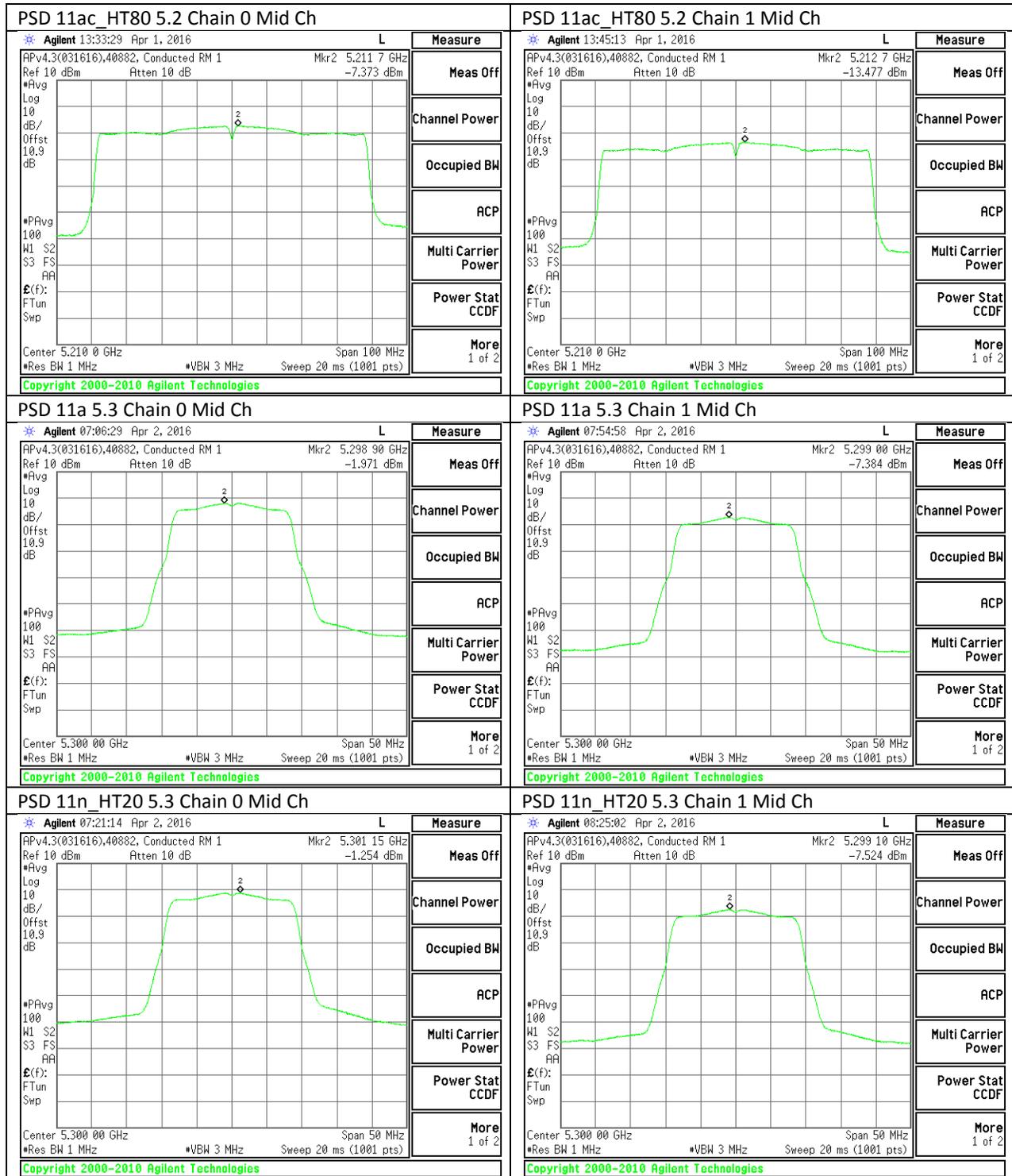
**PSD Results**

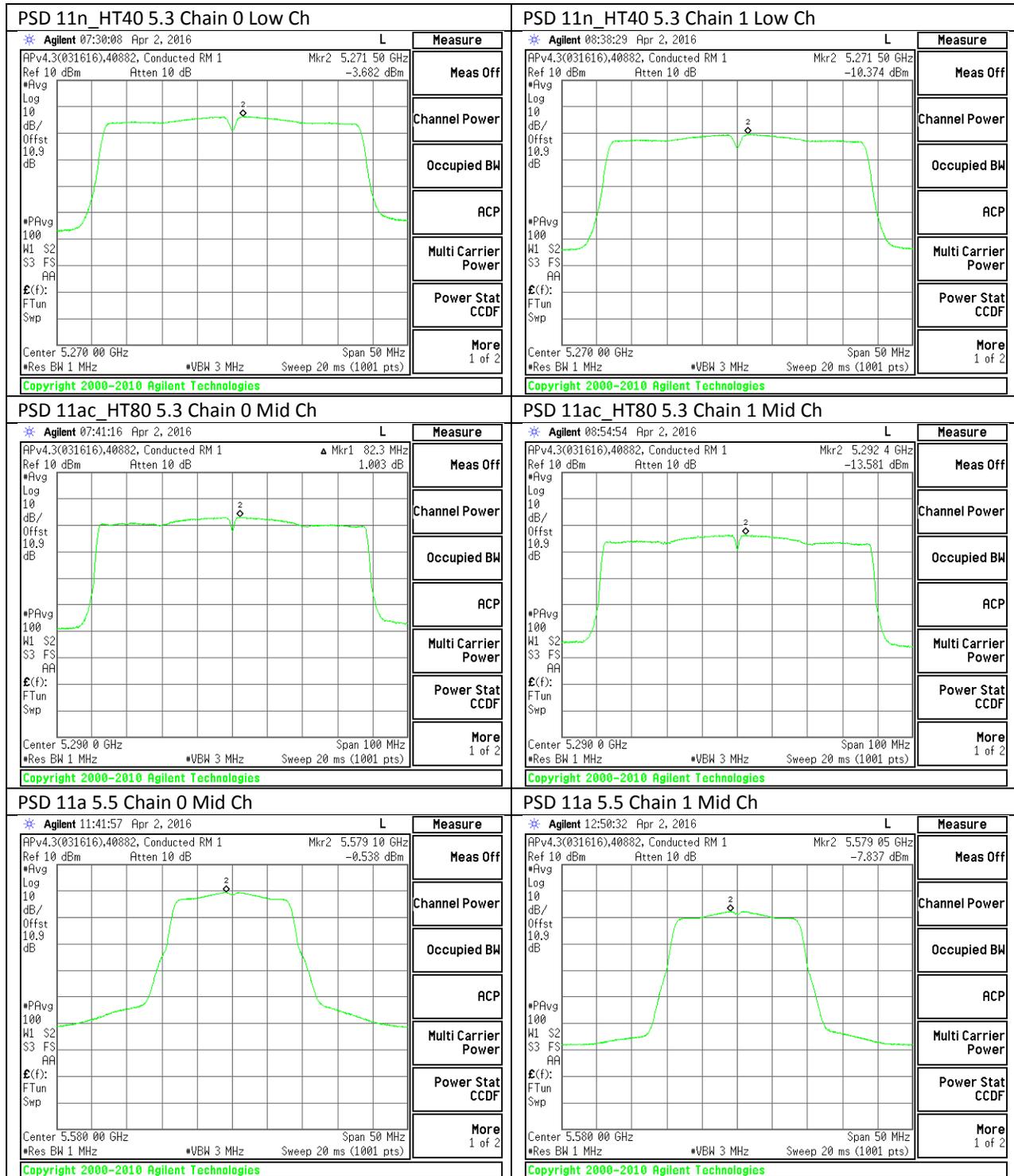
Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm)	Chain 1 Meas PSD (dBm)	Total Corr'd PSD (dBm)	PSD Limit (dBm)	PSD Margin (dB)
Mid	5775	-10.115	-16.347	-8.937	30.00	-38.94

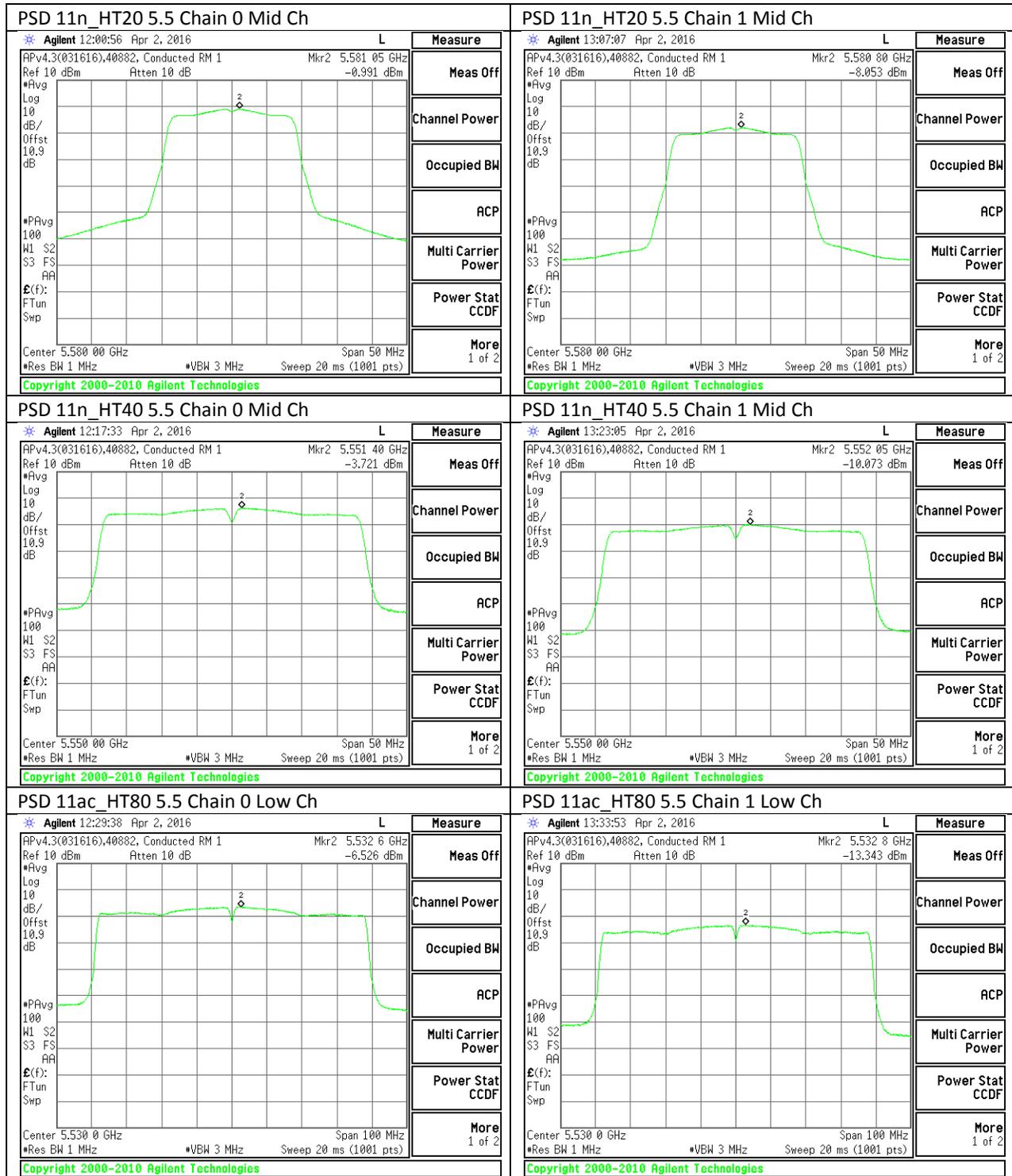
**Note:** the power readings above were measured with gated method, and the measurement was taken only during the ON time. No duty cycle correction was necessary.

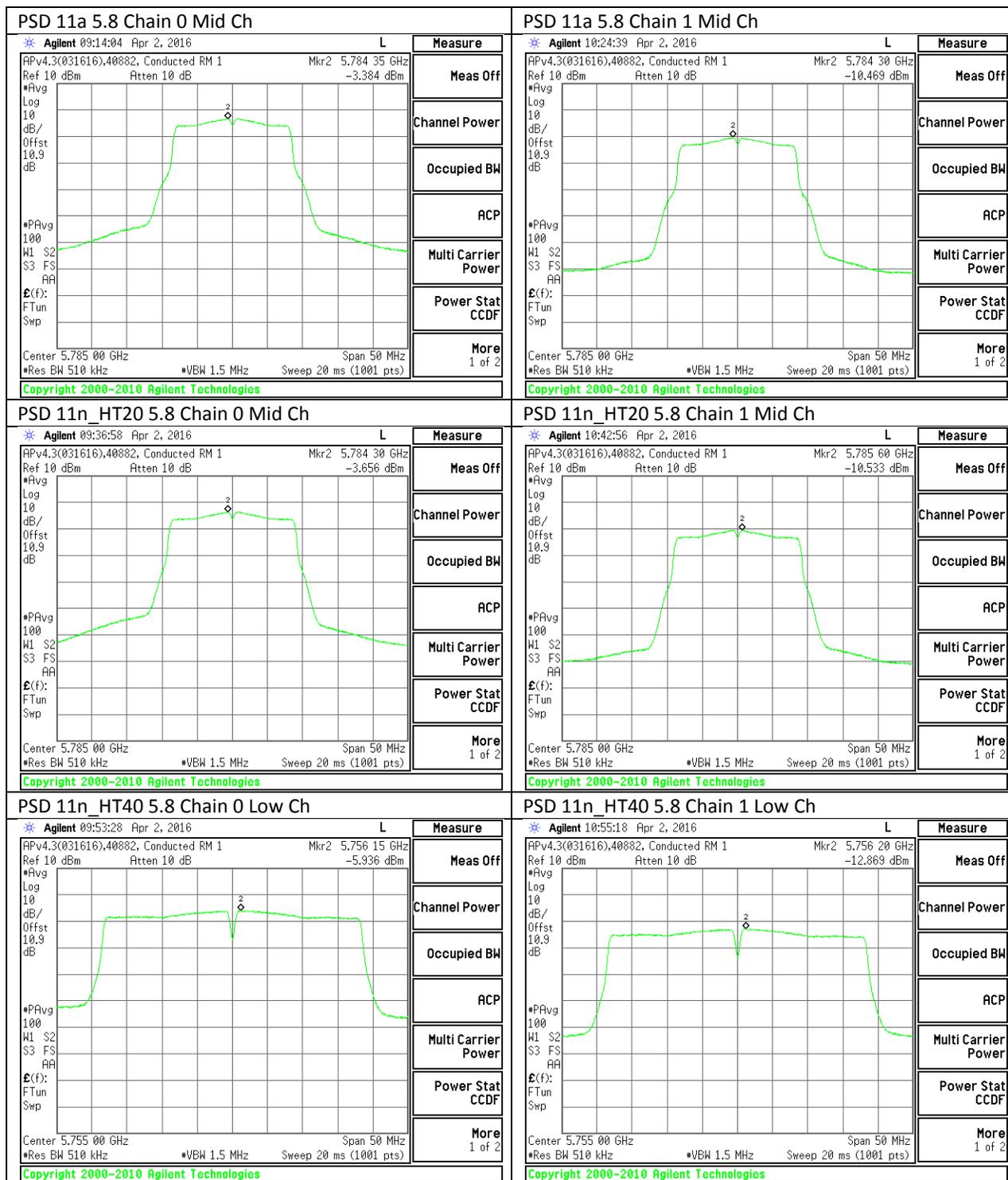
### 8.7.17. OUTPUT POWER AND PSD PLOTS

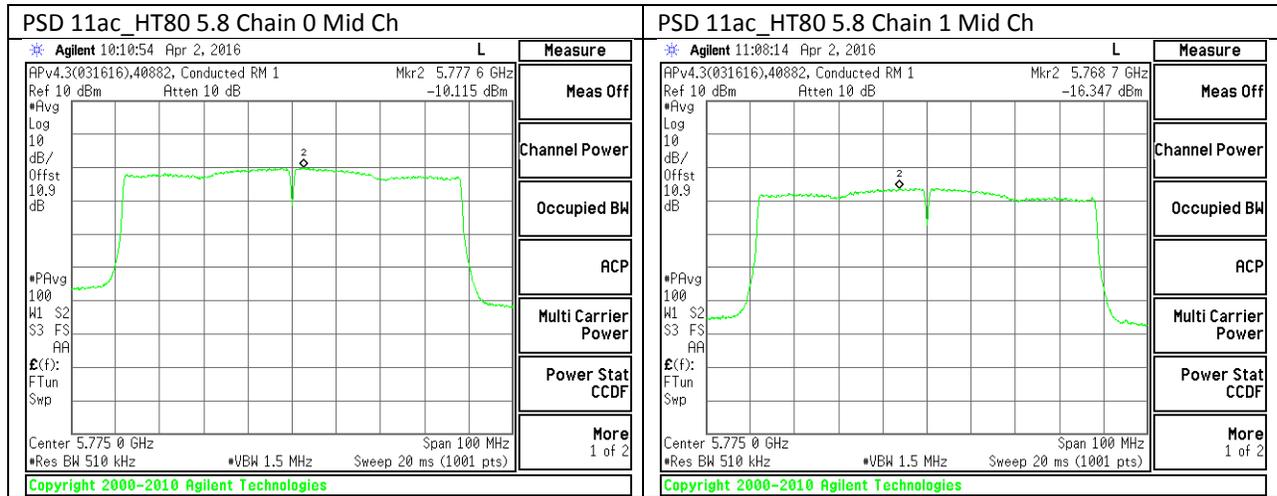












## 9. TRANSMITTER ABOVE 1 GHz

### LIMITS

FCC §15.205 and §15.209  
IC RSS-GEN Clause 8.9 (Transmitter)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

### TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150 cm for above 1GHz. The antenna to EUT distance is 3 meters.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

Reference to KDB 789033 UNII part H) 6) d) Method VB:

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor to the reading offset for average measurements.

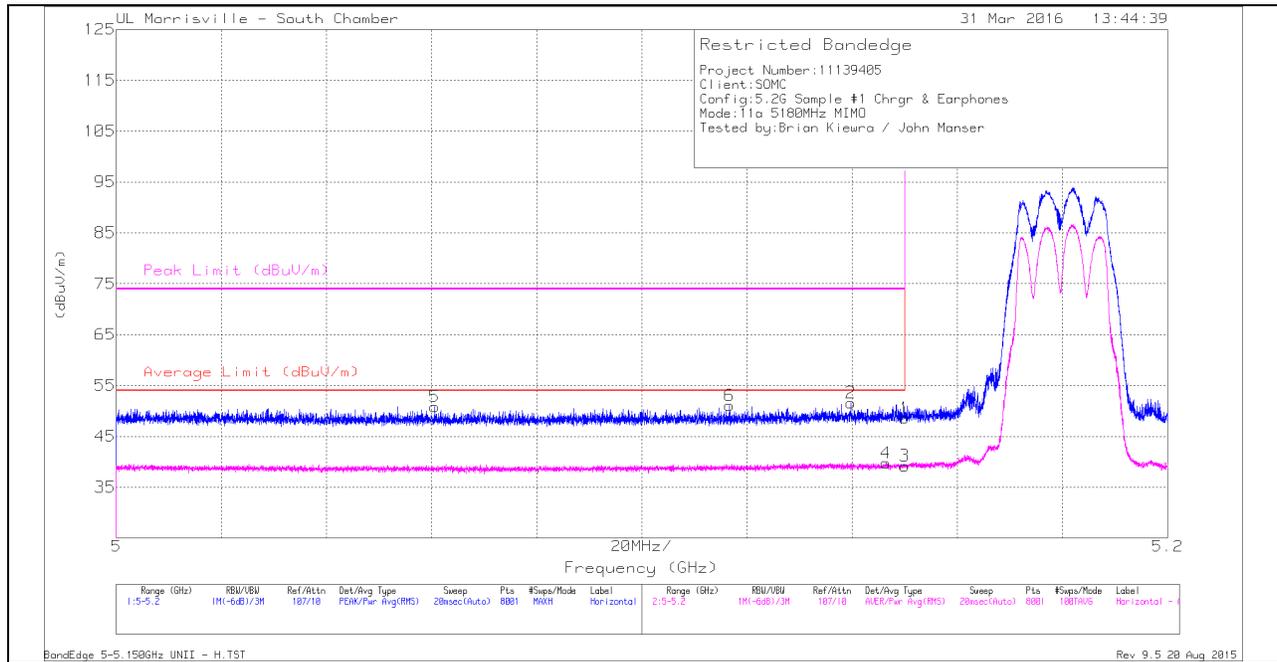
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

### 9.1. 5.2 GHz

#### 9.1.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

##### Trace Markers

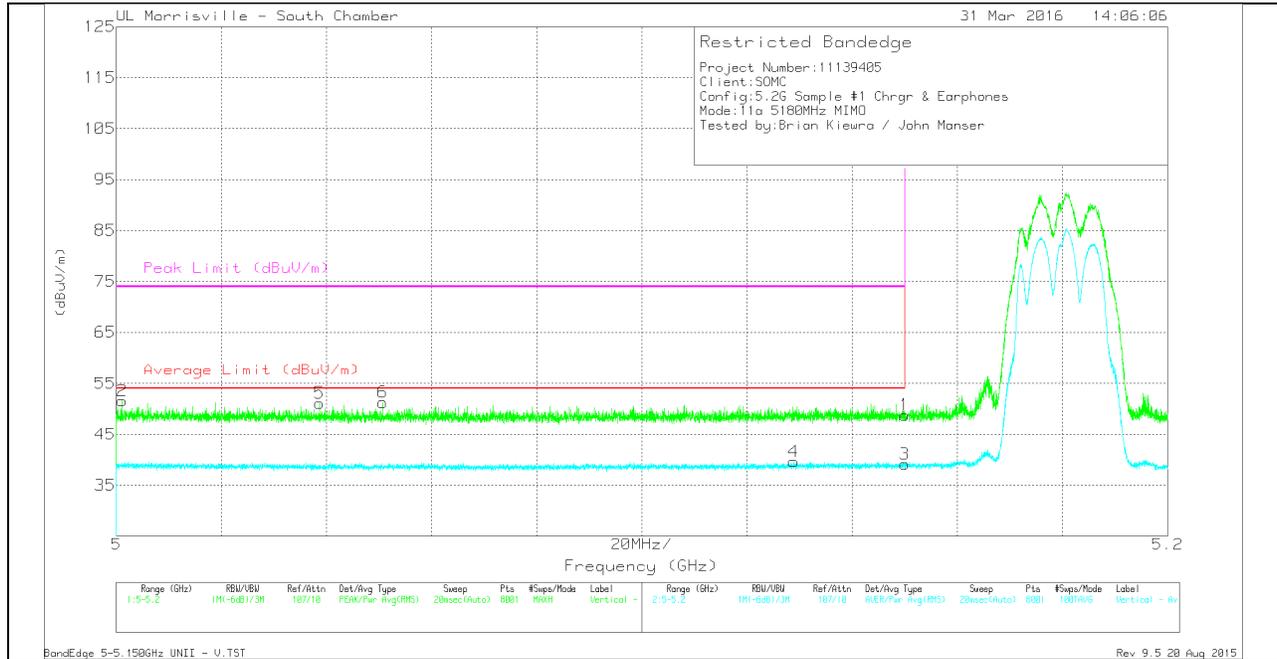
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cb/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.14	40.21	Pk	34.2	-22.8	0	51.61	-	-	74	-22.39	28	118	H
5	* 5.061	39.63	Pk	34	-22.8	0	50.83	-	-	74	-23.17	28	118	H
6	* 5.117	39.89	Pk	34.1	-22.9	0	51.09	-	-	74	-22.91	28	118	H
4	* 5.146	28.38	RMS	34.2	-22.8	0	39.78	54	-14.22	-	-	28	118	H
1	5.15	37.34	Pk	34.2	-22.9	0	48.64	-	-	74	-25.36	28	118	H
3	5.15	27.91	RMS	34.2	-22.9	0	39.21	54	-14.79	-	-	28	118	H

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF A70069 (dB/m)	Amp/Cb/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.001	39.95	Pk	34.1	-22.5	0	51.55	-	-	74	-22.45	230	141	V
5	* 5.039	39.92	Pk	34	-22.8	0	51.12	-	-	74	-22.88	230	141	V
6	* 5.051	40.07	Pk	34	-22.8	0	51.27	-	-	74	-22.73	230	141	V
4	* 5.129	28.21	RMS	34.2	-22.8	0	39.61	54	-14.39	-	-	230	141	V
1	5.15	37.49	Pk	34.2	-22.9	0	48.79	-	-	74	-25.21	230	141	V
3	5.15	27.82	RMS	34.2	-22.9	0	39.12	54	-14.88	-	-	230	141	V

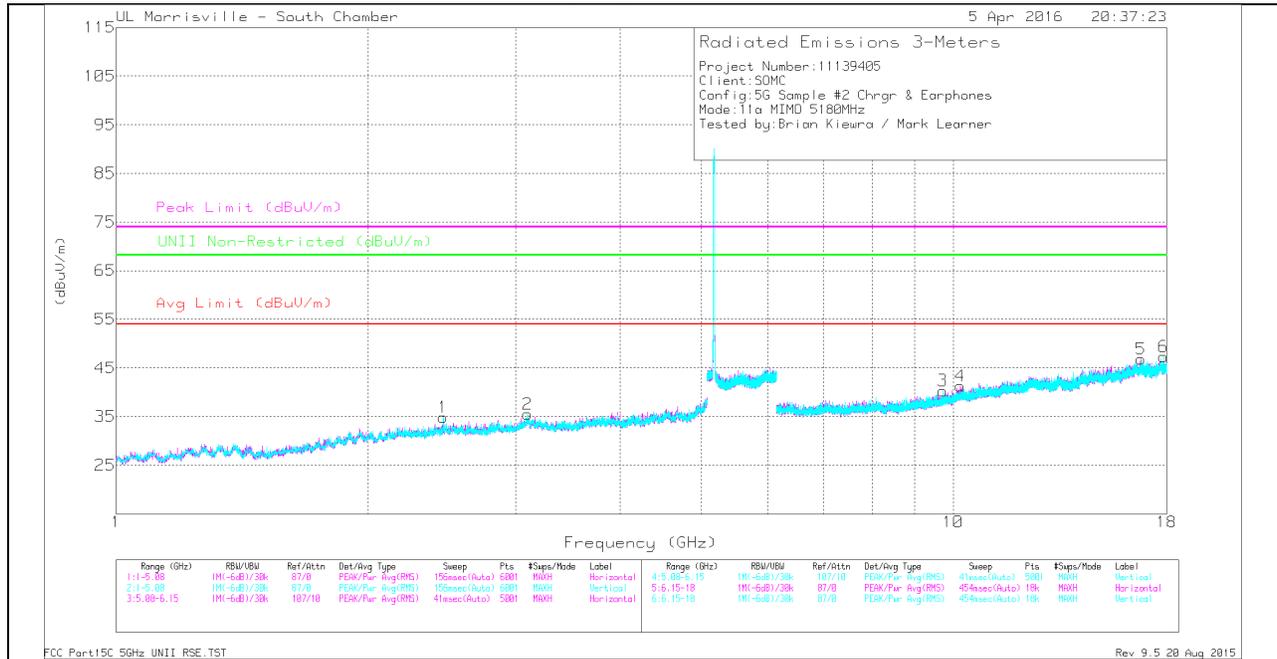
\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

## HARMONICS AND SPURIOUS EMISSIONS

### LOW CHANNEL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

### LOW CHANNEL DATA

#### TRACE MARKERS

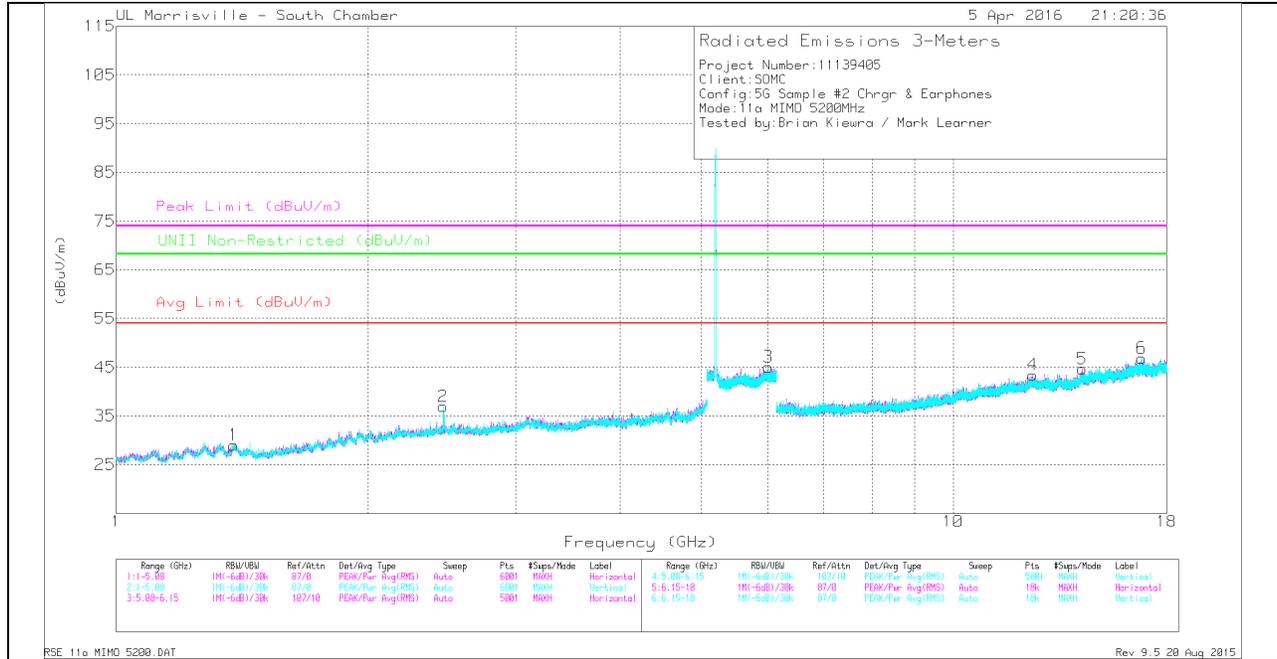
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFAT0069 (dB/m)	Amp/Ch/Flt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (Deg)	Height (cm)	Polarity
6	* 17.84	34.29	PK-U	41.2	-23.3	0	52.19	-	-	74	-21.81	-	-	282	390	V
	* 17.839	23.09	ADR	41.2	-23.4	0	40.89	54	-13.11	-	-	-	-	282	390	V
1	2.461	44.45	PK-U	32.3	-34.6	0	42.15	-	-	-	-	68.2	-26.05	295	225	V
2	3.104	41.22	PK-U	33.9	-34	0	41.12	-	-	-	-	68.2	-27.08	146	296	V
3	9.722	35.88	PK-U	36.7	-26.9	0	45.68	-	-	-	-	68.2	-22.52	131	122	V
4	10.192	35.5	PK-U	37.3	-26.4	0	46.4	-	-	-	-	68.2	-21.8	2	298	H
5	16.764	36.69	PK-U	41.6	-25.6	0	52.69	-	-	-	-	68.2	-15.51	121	349	H

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

**MID CHANNEL**



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

**MID CHANNEL DATA**

*TRACE MARKERS*

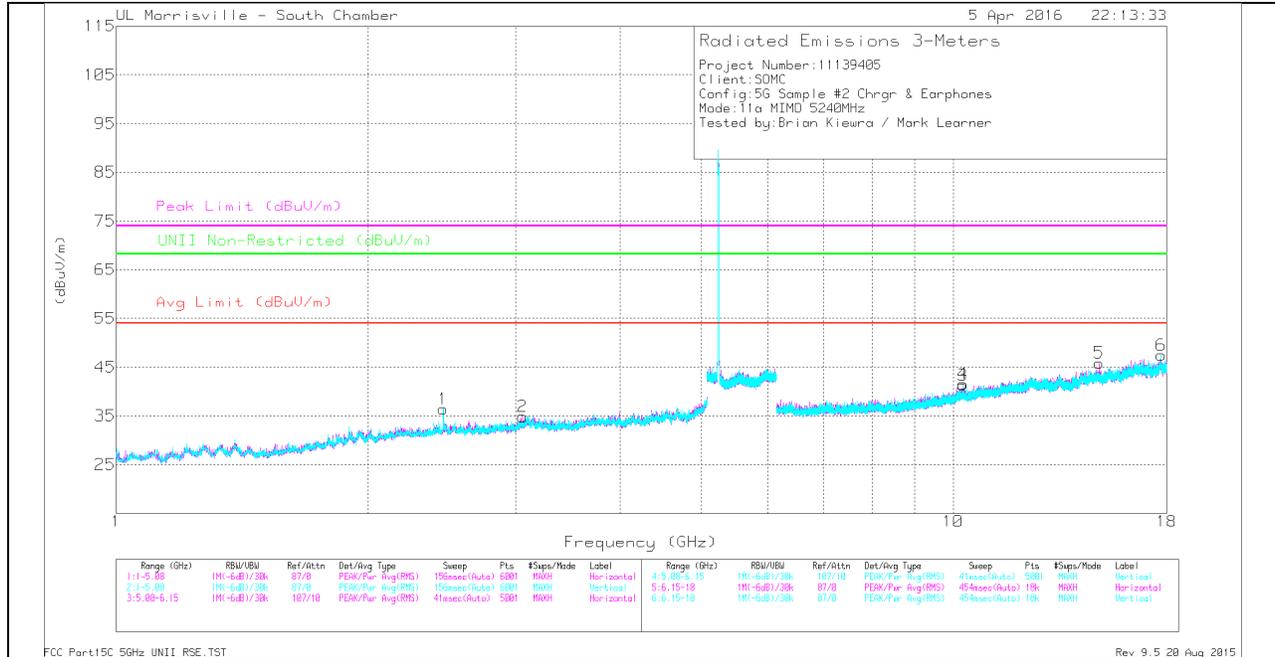
Marker	Frequency (GHz)	Marker Reading (dBuV)	Det	AF ATT0069 (dB/m)	Amp/Cou/Tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 1.382	42.84	PK-U	28.8	-35.2	0	36.44	-	-	74	-37.56	-	-	7	259	V
	* 1.384	30.62	ADR	28.8	-35.2	0	24.22	54	-29.78	-	-	-	-	7	259	V
4	* 12.456	34.62	PK-U	39.1	-24.8	0	48.92	-	-	74	-25.08	-	-	206	350	H
	* 12.455	23.09	ADR	39.1	-24.8	0	37.39	54	-16.61	-	-	-	-	206	350	H
2	2.459	44.78	PK-U	32.3	-34.6	0	42.48	-	-	-	-	68.2	-25.72	90	322	V
3	6.014	38.44	PK-U	35.1	-23.1	0	50.44	-	-	-	-	68.2	-17.76	154	384	V
5	14.267	34.87	PK-U	39.3	-24	0	50.17	-	-	-	-	68.2	-18.03	8	135	H
6	16.792	35.51	PK-U	41.6	-25.2	0	51.91	-	-	-	-	68.2	-16.29	58	299	V

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

**HIGH CHANNEL**



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

**HIGH CHANNEL DATA**

*TRACE MARKERS*

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Corr/Freq/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
6	* 17.733	33.98	PK-U	41.2	-22.8	0	52.38	-	-	74	-21.62	-	-	246	251	V
	* 17.732	22.84	ADR	41.2	-22.8	0	41.24	54	-12.76	-	-	-	-	246	251	V
1	2.46	44.71	PK-U	32.3	-34.6	0	42.41	-	-	-	-	68.2	-25.79	212	204	V
2	3.057	41.36	PK-U	33.3	-34	0	40.66	-	-	-	-	68.2	-27.54	347	198	H
3	10.271	35.12	PK-U	37.4	-26.1	0	46.42	-	-	-	-	68.2	-21.78	183	266	V
4	10.279	34.83	PK-U	37.4	-26	0	46.23	-	-	-	-	68.2	-21.97	66	216	H
5	14.948	35.75	PK-U	39.9	-25.3	0	50.35	-	-	-	-	68.2	-17.85	257	159	H

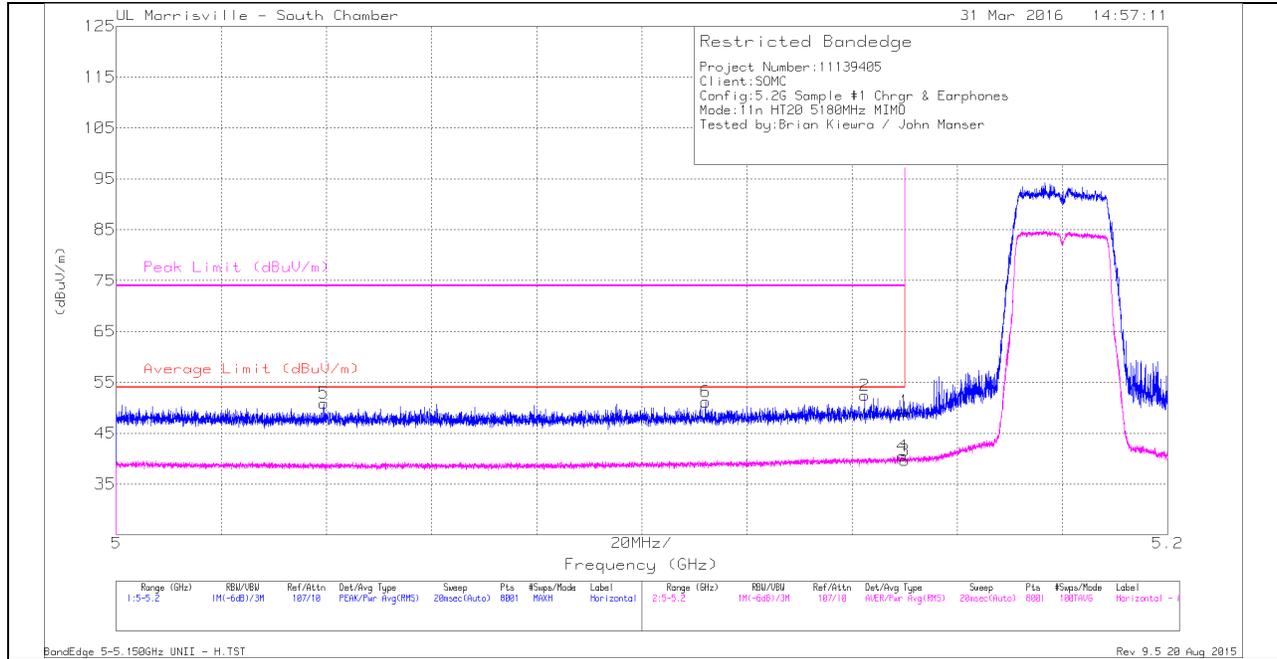
\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

**9.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND  
 RESTRICTED BANDEDGE (LOW CHANNEL)**

**HORIZONTAL PEAK AND AVERAGE PLOT**



**HORIZONTAL DATA**

Trace Markers

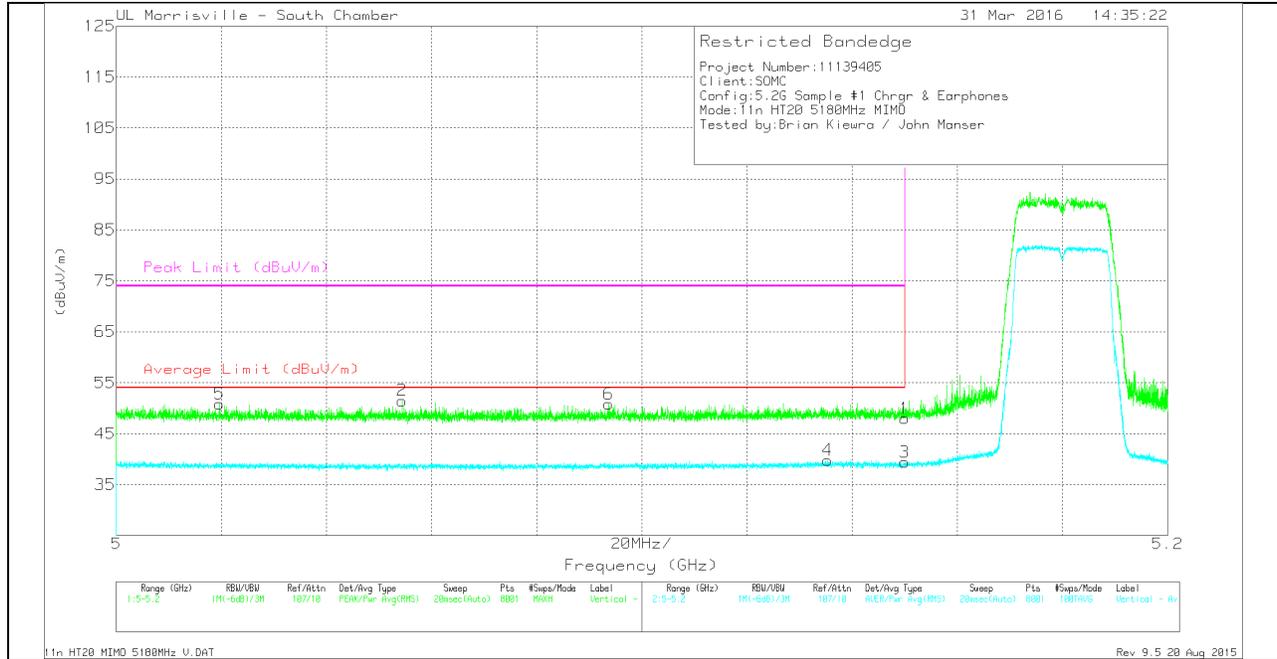
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF A10069 (dB/m)	Amp/Cb/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.142	41.01	Pk	34.2	-22.8	0	52.41	-	-	74	-21.59	24	128	H
5	* 5.039	39.68	Pk	34	-22.8	0	50.88	-	-	74	-23.12	24	128	H
6	* 5.112	39.96	Pk	34.1	-22.9	0	51.16	-	-	74	-22.84	24	128	H
4	* 5.15	29.2	RMS	34.2	-22.9	0	40.5	54	-13.5	-	-	24	128	H
1	5.15	38.08	Pk	34.2	-22.9	0	49.38	-	-	74	-24.62	24	128	H
3	5.15	28.37	RMS	34.2	-22.9	0	39.67	54	-14.33	-	-	24	128	H

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

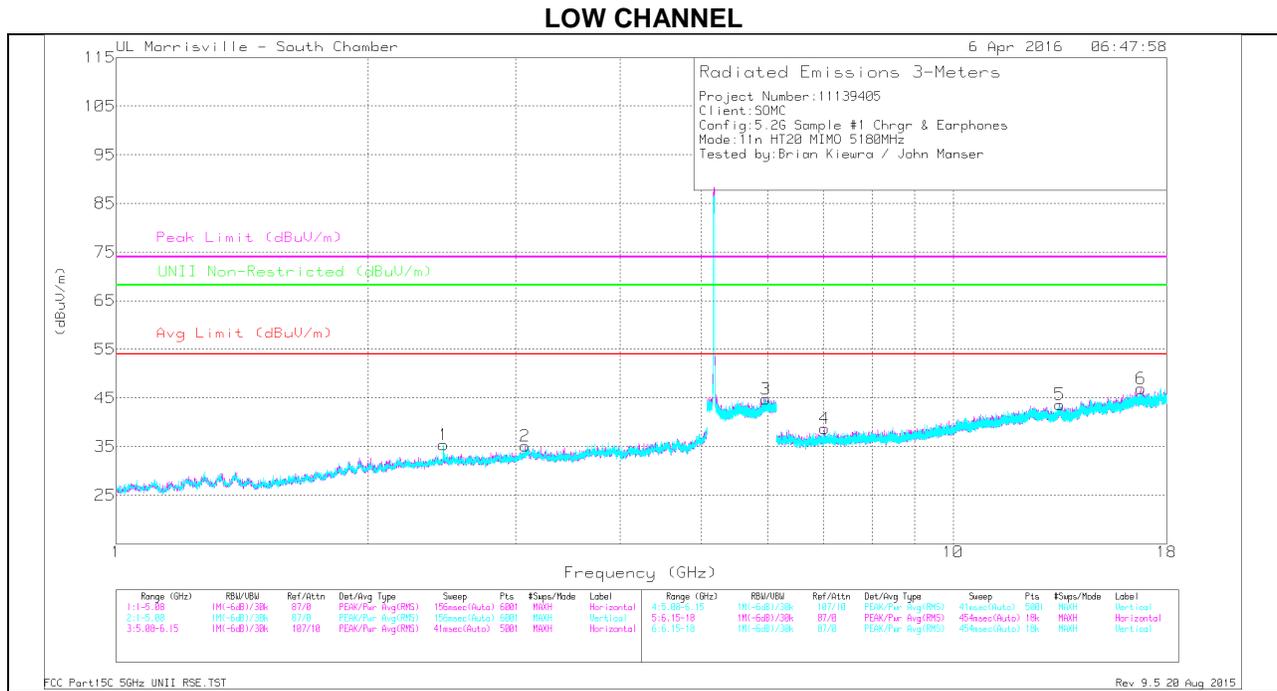
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cb/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.054	40.21	Pk	34	-22.7	0	51.51	-	-	74	-22.49	233	146	V
5	* 5.02	39.53	Pk	34	-22.7	0	50.83	-	-	74	-23.17	233	146	V
6	* 5.094	39.63	Pk	34	-22.8	0	50.83	-	-	74	-23.17	233	146	V
4	* 5.135	28.41	RMS	34.2	-22.8	0	39.81	54	-14.19	-	-	233	146	V
1	5.15	36.73	Pk	34.2	-22.9	0	48.03	-	-	74	-25.97	233	146	V
3	5.15	28.1	RMS	34.2	-22.9	0	39.4	54	-14.6	-	-	233	146	V

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

### HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

### LOW CHANNEL DATA

#### TRACE MARKERS

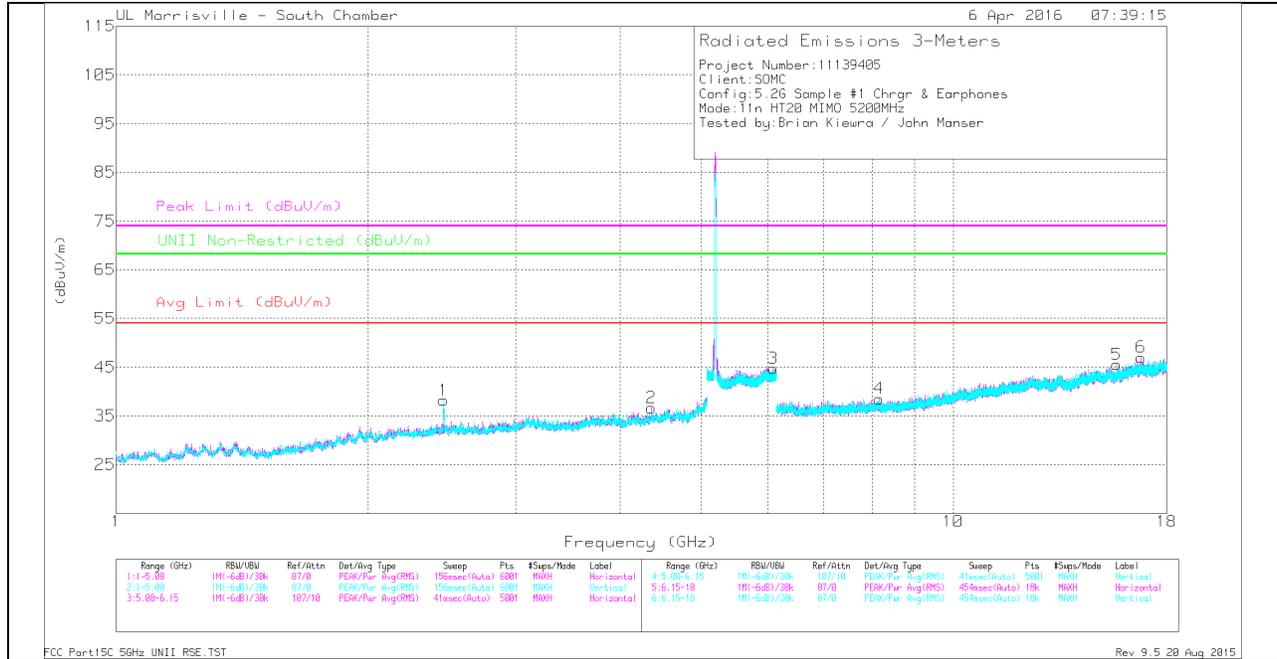
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Chl/Rtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (Orgs)	Height (cm)	Polarity
1	2.463	43.8	PK-U	32.3	-34.6	0	41.5	-	-	-	-	68.2	-26.7	55	395	V
2	3.077	41.02	PK-U	33.6	-34	0	40.62	-	-	-	-	68.2	-27.58	274	237	H
3	5.977	38.22	PK-U	35	-25.1	0	39.12	-	-	-	-	68.2	-18.08	107	113	H
4	7.026	38.5	PK-U	35.6	-25	0	43.5	-	-	-	-	68.2	-24.2	198	388	H
5	13.413	35.94	PK-U	39	-24.8	0	50.14	-	-	-	-	68.2	-18.06	109	183	V
6	16.783	35.93	PK-U	41.6	-25.4	0	52.13	-	-	-	-	68.2	-16.07	235	308	H

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

**MID CHANNEL**



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

**MID CHANNEL DATA**

*TRACE MARKERS*

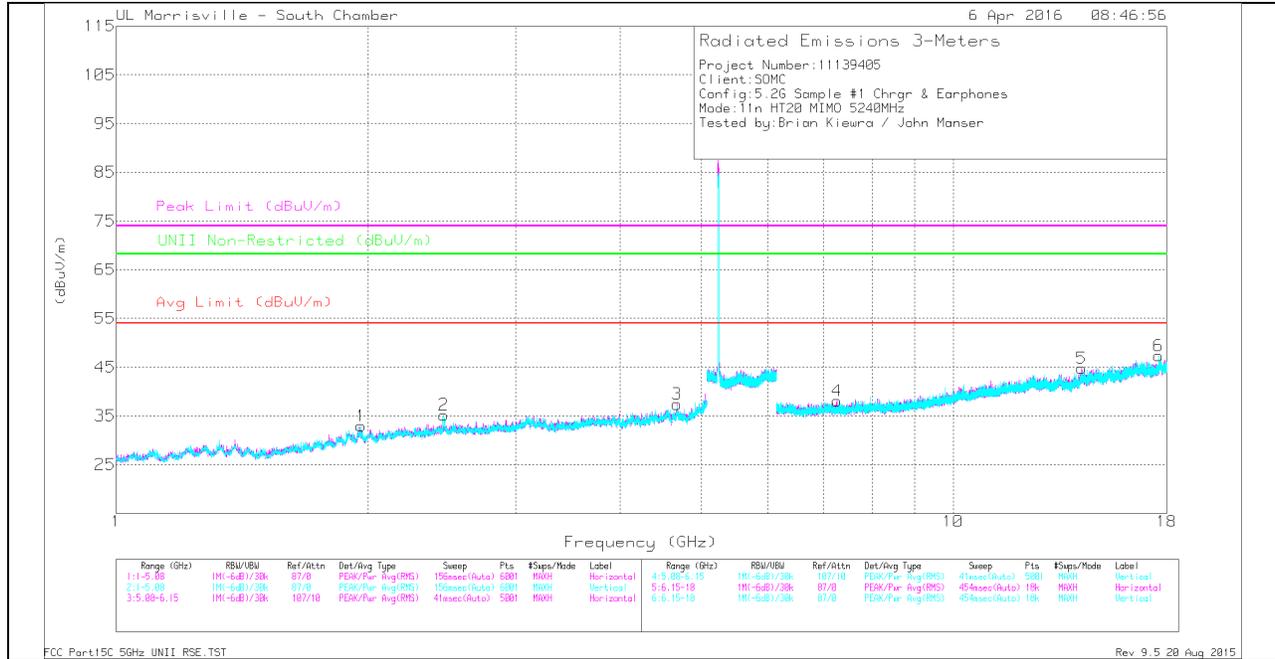
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Chl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Asimth (Degs)	Height (cm)	Polarity
2	* 4.357	40.15	PK-U	33.6	-31.7	0	42.05	-	-	74	-31.95	-	-	269	115	H
	* 4.359	28.54	ADR	33.6	-31.7	0	30.44	54	-23.56	-	-	-	-	269	115	H
4	* 8.163	36.6	PK-U	35.7	-28.5	0	43.8	-	-	74	-30.2	-	-	135	301	V
	* 8.163	25.2	ADR	35.7	-28.5	0	32.4	54	-21.6	-	-	-	-	135	301	V
5	* 15.671	35.45	PK-U	40.2	-24.6	0	51.05	-	-	74	-22.95	-	-	289	276	H
	* 15.671	23.2	ADR	40.2	-24.6	0	38.8	54	-15.2	-	-	-	-	289	276	H
1	2.459	48.74	PK-U	32.3	-34.6	0	46.44	-	-	-	-	68.2	-21.76	92	197	V
3	6.098	38.09	PK-U	35.4	-23.2	0	50.29	-	-	-	-	68.2	-17.91	351	193	H
6	16.771	35.8	PK-U	41.6	-25.6	0	51.8	-	-	-	-	68.2	-16.4	253	376	H

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

**HIGH CHANNEL**



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

**HIGH CHANNEL DATA**

*TRACE MARKERS*

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT2069 (dB/m)	Amp/Chl/Fbr/Psd (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 4.676	40.14	PK-U	34.1	-31.3	0	42.94	-	-	74	-31.06	-	-	78	228	H
	* 4.678	28.2	ADR	34.1	-31.3	0	31	54	-23	-	-	-	-	78	228	H
4	* 7.272	36.1	PK-U	35.5	-28.5	0	43.1	-	-	74	-30.9	-	-	319	142	H
	* 7.27	24.8	ADR	35.5	-28.5	0	31.8	54	-22.2	-	-	-	-	319	142	H
1	1.959	41.94	PK-U	31.2	-34.6	0	38.54	-	-	-	-	68.2	-29.66	166	154	V
2	2.463	44.99	PK-U	32.3	-34.6	0	42.69	-	-	-	-	68.2	-25.51	196	328	V
5	14.235	35.03	PK-U	39.3	-24.3	0	50.03	-	-	-	-	68.2	-18.17	319	104	H
6	17.593	35.13	PK-U	41.2	-24.3	0	52.03	-	-	-	-	68.2	-16.17	130	316	V

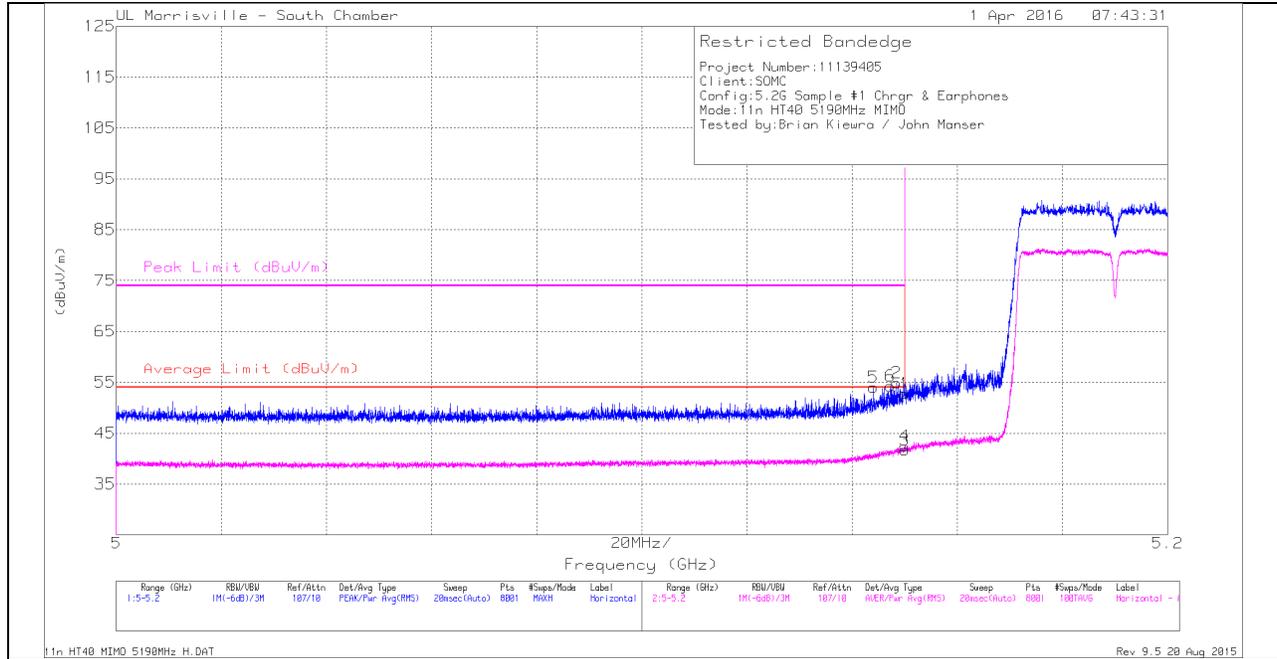
\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

### 9.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

##### Trace Markers

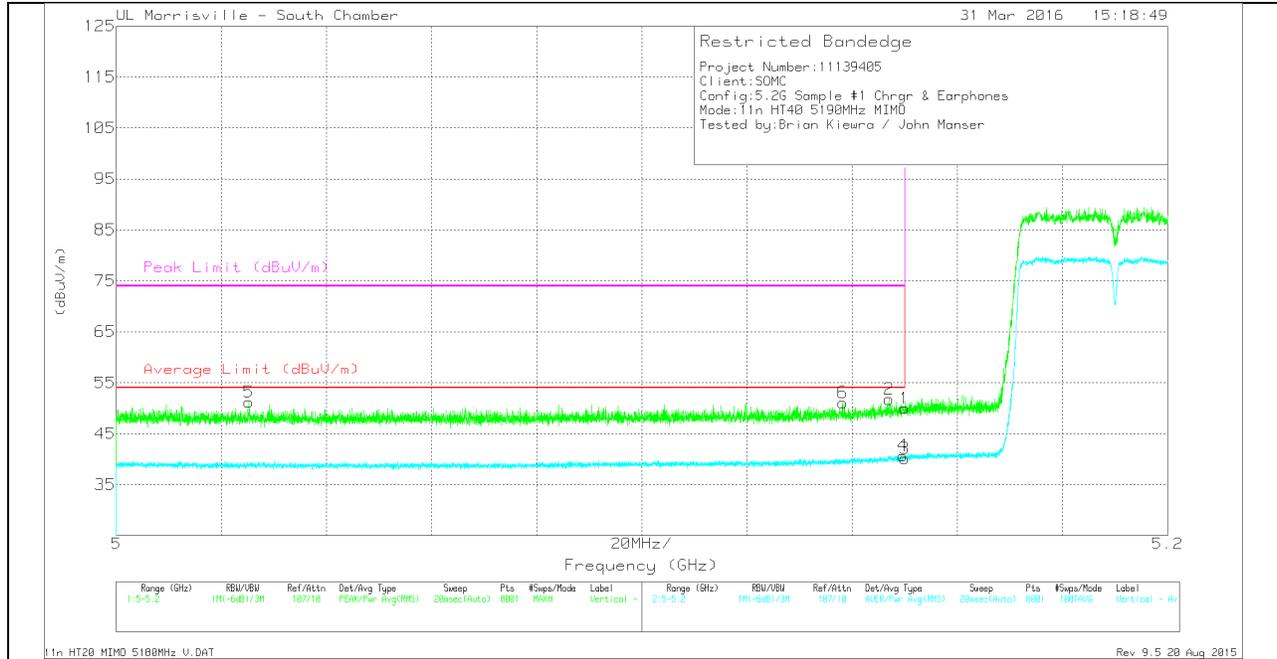
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cb/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.148	43.62	Pk	34.2	-22.9	0	54.92	-	-	74	-19.08	22	139	H
5	* 5.144	42.6	Pk	34.2	-22.8	0	54	-	-	74	-20	22	139	H
6	* 5.147	42.97	Pk	34.2	-22.9	0	54.27	-	-	74	-19.73	22	139	H
4	* 5.15	31.03	RMS	34.2	-22.9	.12	42.45	54	-11.55	-	-	22	139	H
1	5.15	41.53	Pk	34.2	-22.9	0	52.83	-	-	74	-21.17	22	139	H
3	5.15	30.33	RMS	34.2	-22.9	.12	41.75	54	-12.25	-	-	22	139	H

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

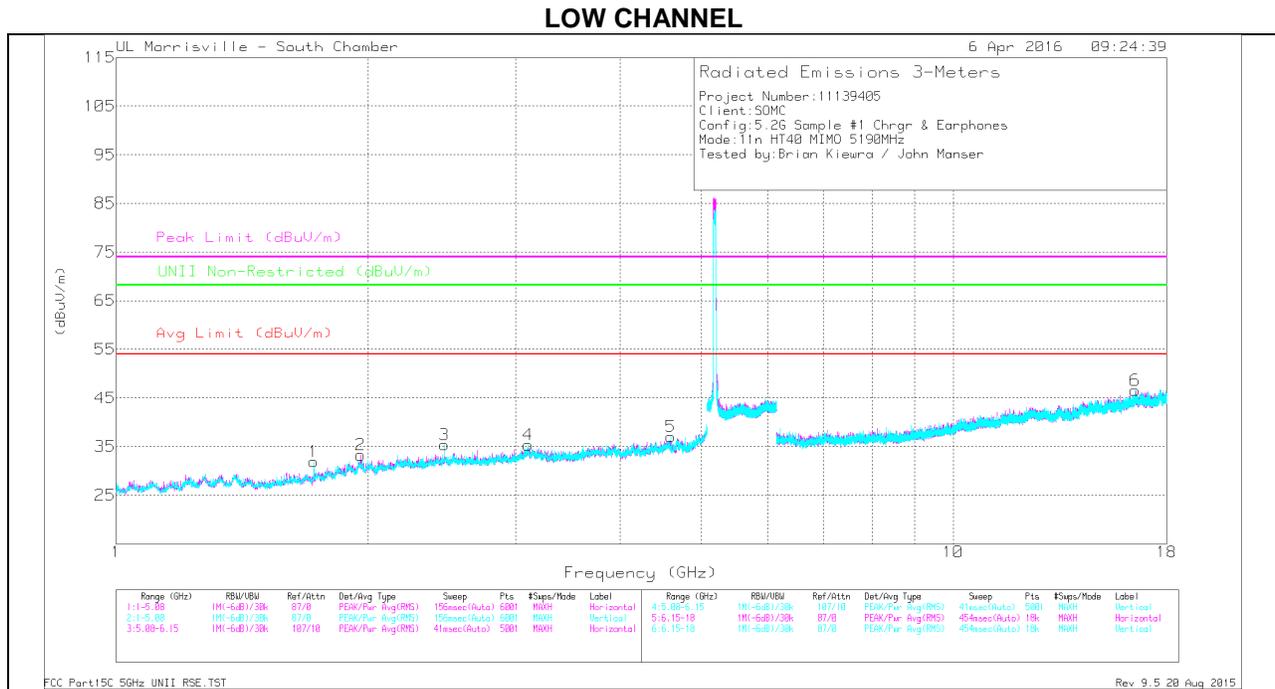
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cb/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.147	40.47	Pk	34.2	-22.9	0	51.77	-	-	74	-22.23	234	156	V
5	* 5.025	39.92	Pk	34	-22.7	0	51.22	-	-	74	-22.78	234	156	V
6	* 5.138	39.72	Pk	34.2	-22.8	0	51.12	-	-	74	-22.88	234	156	V
4	* 5.15	29.27	RMS	34.2	-22.9	.12	40.69	54	-13.31	-	-	234	156	V
1	5.15	38.69	Pk	34.2	-22.9	0	49.99	-	-	74	-24.01	234	156	V
3	5.15	28.72	RMS	34.2	-22.9	.12	40.14	54	-13.86	-	-	234	156	V

\* - indicates range frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

## HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

### LOW CHANNEL DATA

#### TRACE MARKERS

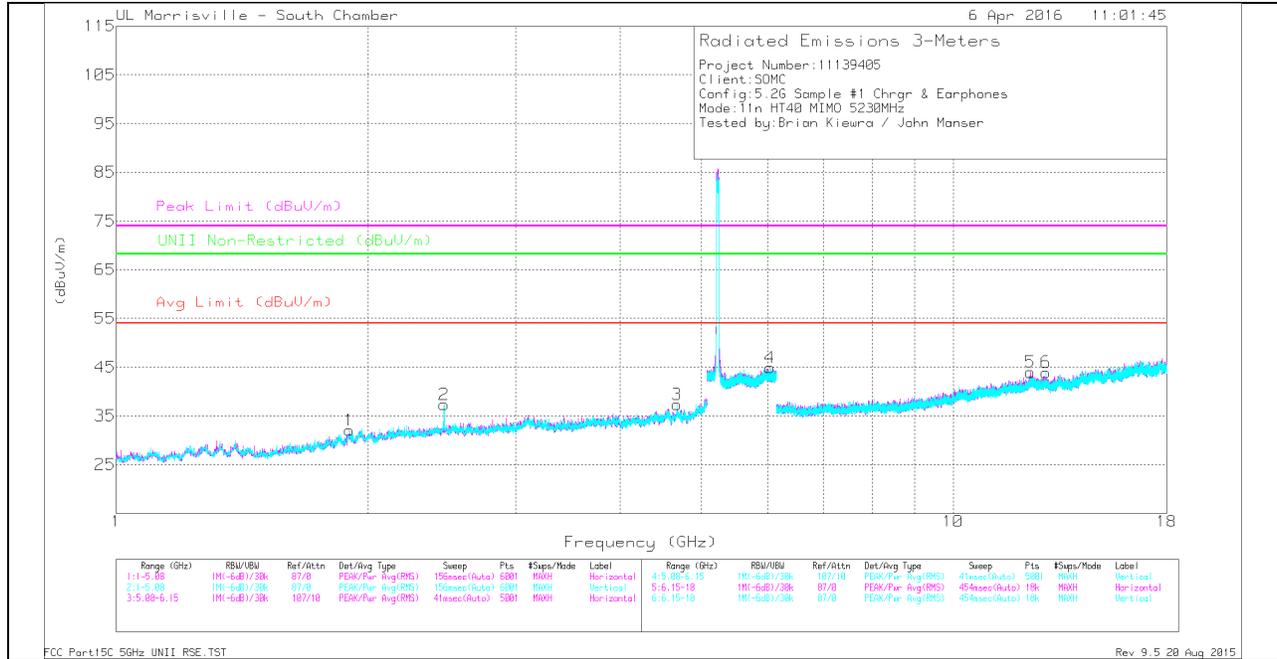
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF ATT069 (dB/m)	Amp/Chn/Freq/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
5	* 4.601	40.03	PK-U	34.1	-32	0	42.13	-	-	74	-31.87	-	-	145	198	V
	* 4.602	27.95	ADR	34.1	-32	12	30.17	54	-23.83	-	-	-	-	145	198	V
1	1.722	42.32	PK-U	29.3	-35.1	0	36.52	-	-	-	-	68.2	-31.68	49	300	V
2	1.956	41.87	PK-U	31.2	-34.6	0	38.47	-	-	-	-	68.2	-29.73	132	389	H
3	2.466	45.76	PK-U	32.4	-34.6	0	43.56	-	-	-	-	68.2	-24.64	255	346	V
4	3.108	41.22	PK-U	33.9	-33.9	0	41.22	-	-	-	-	68.2	-26.98	159	381	V
6	16.501	34.89	PK-U	41.2	-24.4	0	51.69	-	-	-	-	68.2	-16.51	141	259	V

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

MID CHANNEL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF ATTEN (dB/m)	Amp/CS/Flt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
3	* 4.678	39.2	PK-U	34.1	-31.3	0	42	-	-	74	-32	-	-	129	290	V
	* 4.678	28.04	ADR	34.1	-31.3	.12	30.96	54	-23.04	-	-	-	-	129	290	V
5	* 12.376	35.39	PK-U	39	-24.8	0	49.59	-	-	74	-24.41	-	-	156	212	H
	* 12.375	23.33	ADR	39	-24.8	.12	37.65	54	-16.35	-	-	-	-	156	212	H
1	1.898	42.12	PK-U	30.7	-34.7	0	38.12	-	-	-	-	68.2	-30.08	326	311	H
2	2.463	47.8	PK-U	32.3	-34.6	0	45.5	-	-	-	-	68.2	-22.7	87	191	V
4	6.041	38.22	PK-U	35.1	-23.2	0	50.12	-	-	-	-	68.2	-18.08	80	314	V
6	12.919	35.48	PK-U	39.2	-25.6	0	49.08	-	-	-	-	68.2	-19.12	250	233	V

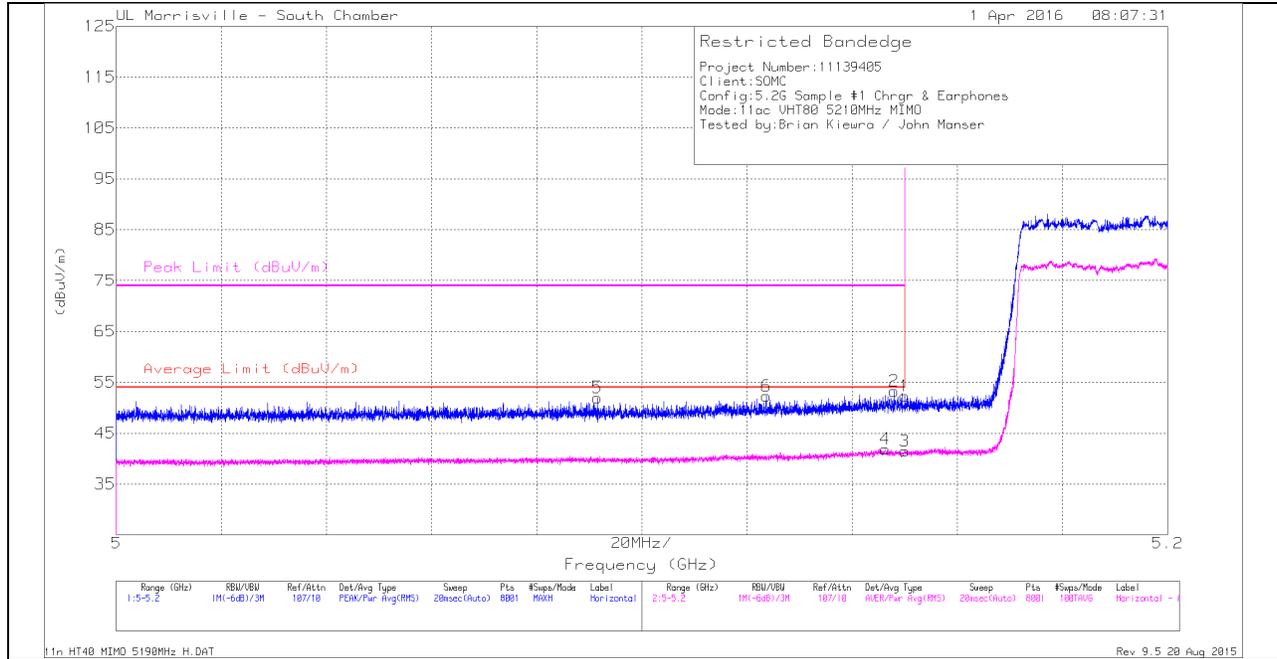
\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

### 9.1.4. TX ABOVE 1 GHz 802.11ac VHT80 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

##### Trace Markers

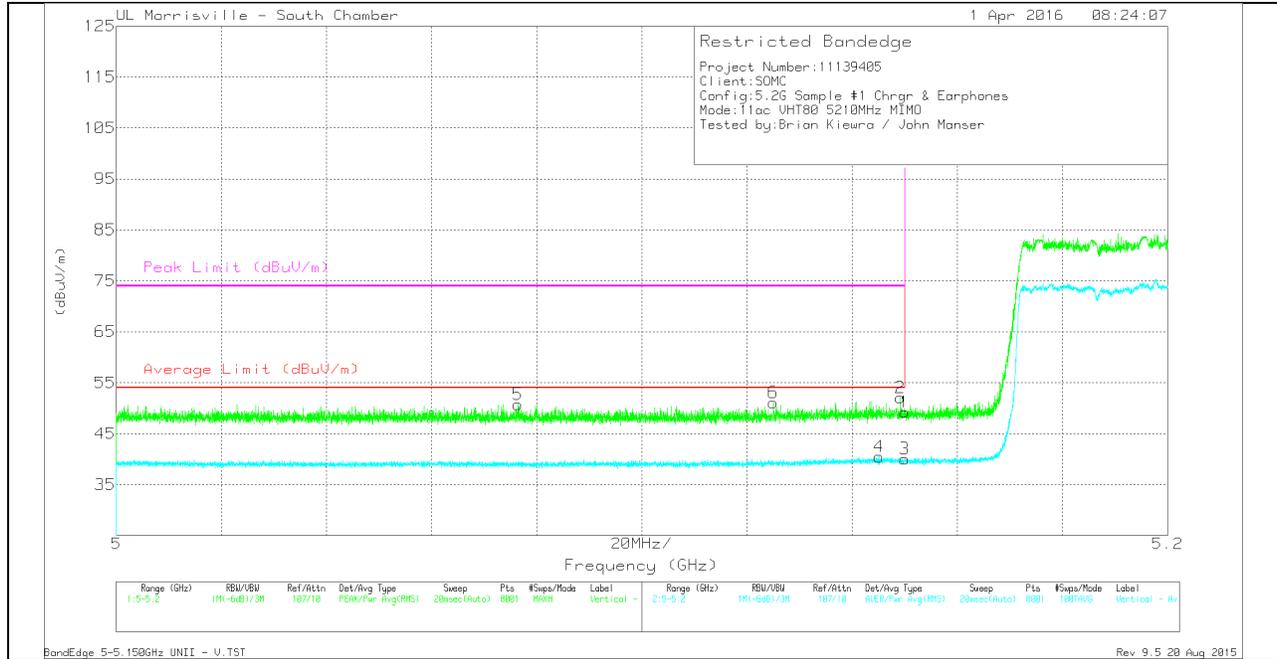
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF A10069 (dB/m)	Amp/Cb/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.148	41.95	Pk	34.2	-22.9	0	53.25	-	-	74	-20.75	23	123	H
5	* 5.092	40.79	Pk	34	-22.8	0	51.99	-	-	74	-22.01	23	123	H
6	* 5.124	41.11	Pk	34.1	-22.9	0	52.31	-	-	74	-21.69	23	123	H
4	* 5.146	30.26	RMS	34.2	-22.8	.24	41.9	54	-12.1	-	-	23	123	H
1	5.15	40.97	Pk	34.2	-22.9	0	52.27	-	-	74	-21.73	23	123	H
3	5.15	29.96	RMS	34.2	-22.9	.24	41.5	54	-12.5	-	-	23	123	H

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

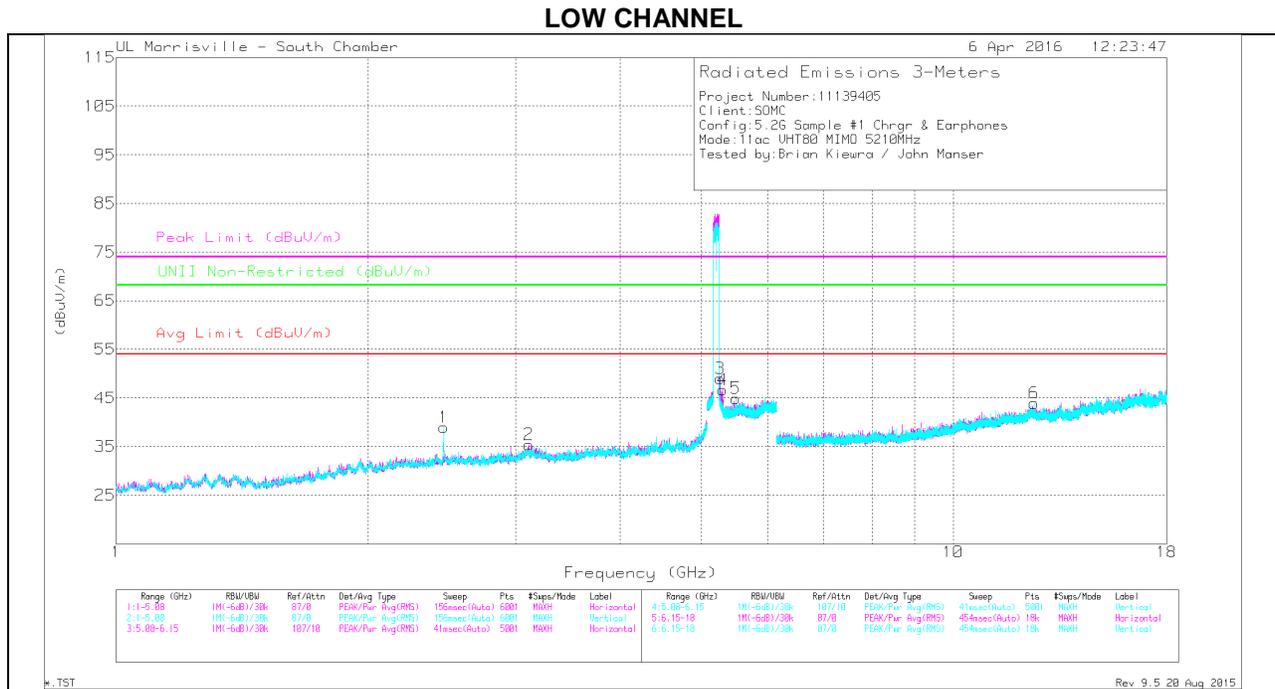
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cb/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.149	40.79	Pk	34.2	-22.9	0	52.09	-	-	74	-21.91	331	106	V
5	* 5.076	39.65	Pk	34	-22.9	0	50.75	-	-	74	-23.25	331	106	V
6	* 5.125	39.93	Pk	34.1	-22.9	0	51.13	-	-	74	-22.87	331	106	V
4	* 5.145	28.82	RMS	34.2	-22.8	.24	40.46	54	-13.54	-	-	331	106	V
1	5.15	37.93	Pk	34.2	-22.9	0	49.23	-	-	74	-24.77	331	106	V
3	5.15	28.51	RMS	34.2	-22.9	.24	40.05	54	-13.95	-	-	331	106	V

\* - indicates range frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

### HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

#### LOW CHANNEL DATA

##### TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFAT009 (dB/m)	Ampl/CS/Fix/Psd (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
6	* 12.496	34.72	PK-U	39.1	-25	0	48.82	-	-	74	-25.18	-	-	23	333	V
	* 12.496	23.15	ADR	39.1	-25	24	37.49	54	-16.51	-	-	-	-	23	333	V
1	2.463	50.03	PK-U	32.3	-34.6	0	47.73	-	-	-	-	68.2	-20.47	143	206	V
2	3.113	31.25	PK-U	33.8	-33.9	0	31.15	-	-	-	-	68.2	-37.05	326	400	H
3	5.266	46.53	PK-U	34.3	-23.1	0	57.73	-	-	-	-	68.2	-10.47	37	278	H
4	5.307	44.94	PK-U	34.4	-23.2	0	56.14	-	-	-	-	68.2	-12.06	43	112	H
5	5.497	38.79	PK-U	34.6	-23.9	0	49.49	-	-	-	-	68.2	-18.71	310	121	V

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

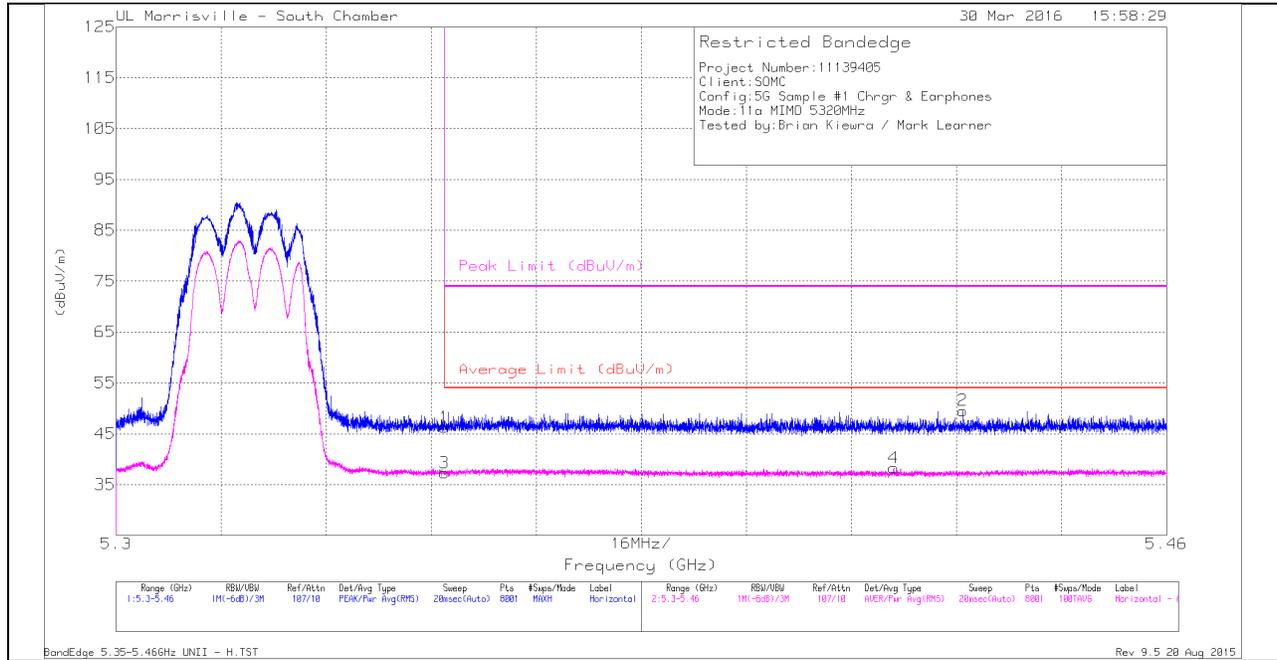
PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

## 9.2. 5.3 GHz

### 9.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

##### Trace Markers

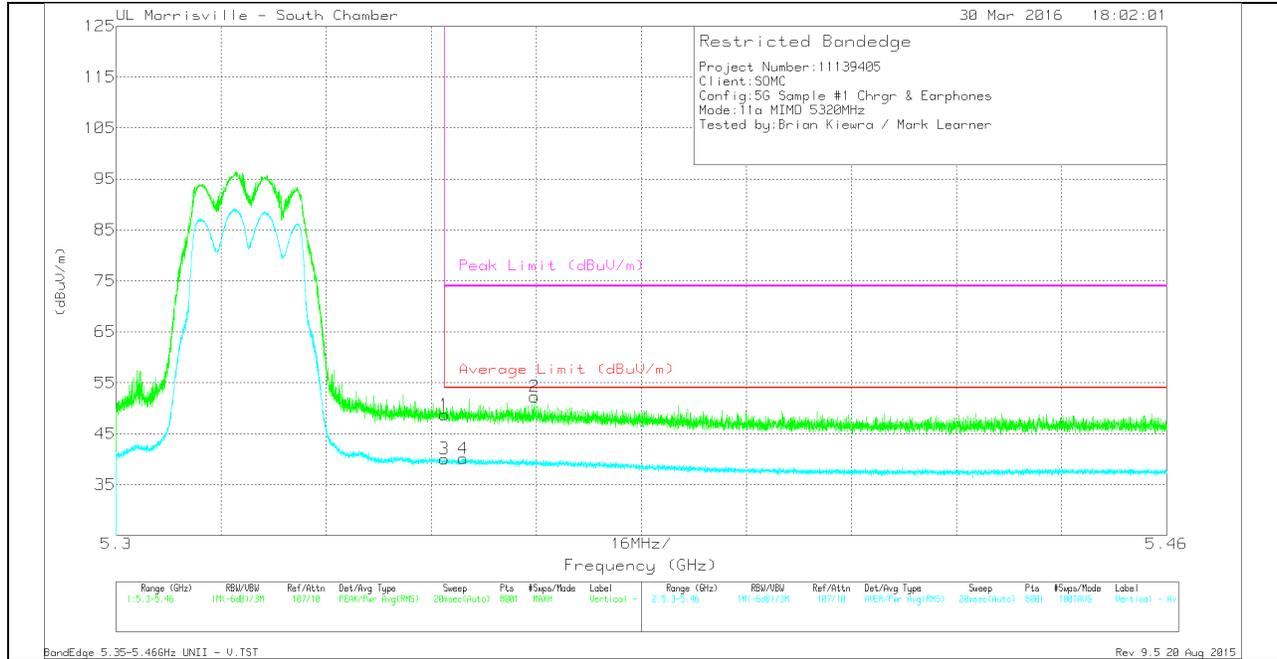
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cb/Filtz/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	35.41	Pk	34.4	-23.5	0	46.31	-	-	74	-27.69	261	204	H
2	* 5.429	38.94	Pk	34.5	-23.9	0	49.54	-	-	74	-24.46	261	204	H
3	* 5.35	26.42	RMS	34.4	-23.5	0	37.32	54	-16.68	-	-	261	204	H
4	* 5.418	27.56	RMS	34.5	-23.8	0	38.26	54	-15.74	-	-	261	204	H

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

Trace Markers

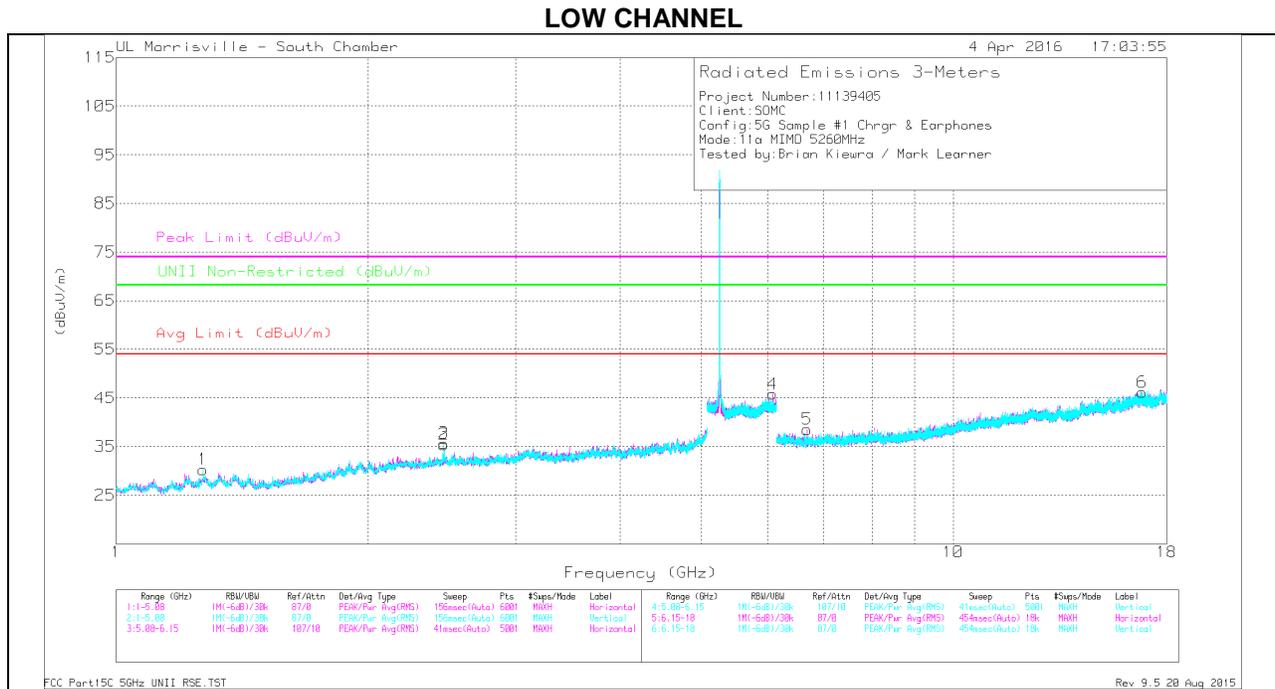
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cb/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	37.83	Pk	34.4	-23.5	0	48.73	-	-	74	-25.27	80	215	V
2	* 5.364	41.36	Pk	34.4	-23.5	0	52.26	-	-	74	-21.74	80	215	V
3	* 5.35	29.15	RMS	34.4	-23.5	0	40.05	54	-13.95	-	-	80	215	V
4	* 5.353	29.16	RMS	34.4	-23.4	0	40.16	54	-13.84	-	-	80	215	V

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

## HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

### LOW CHANNEL DATA

#### TRACE MARKERS

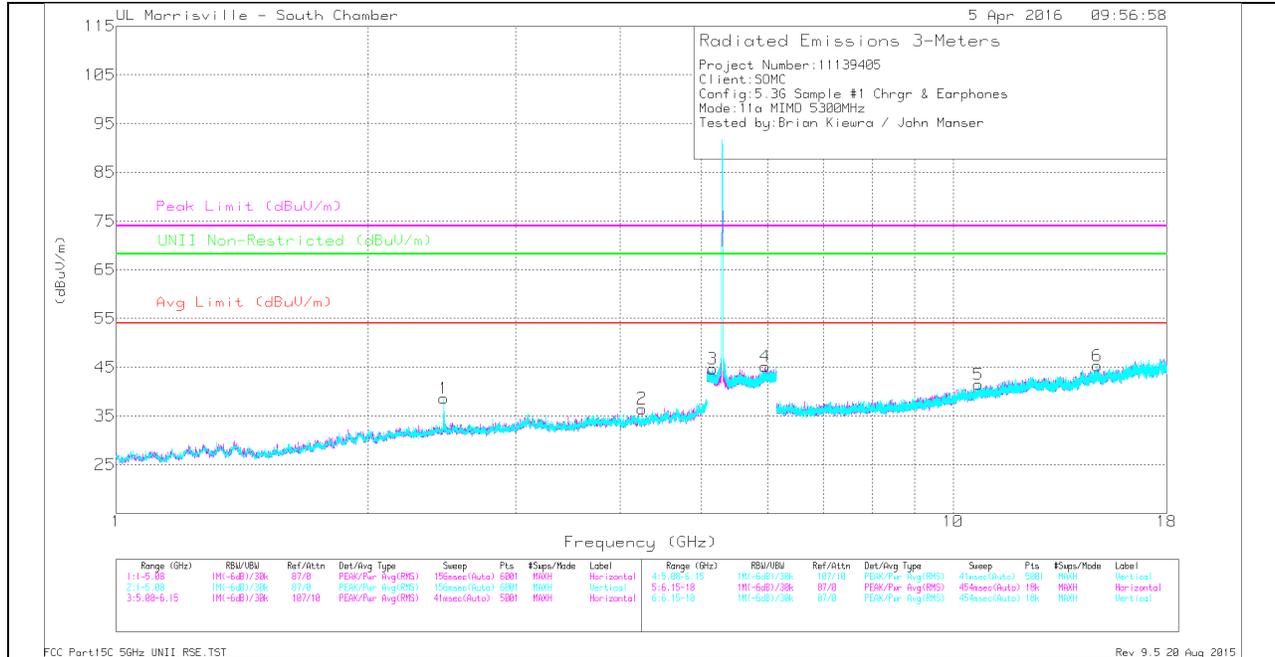
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/CM/FHz/Ped (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 1.271	42.27	PK-U	28.7	-35.6	0	35.37	-	-	74	-38.63	-	-	121	123	V
	* 1.27	30.62	ADR	28.7	-35.6	0	23.72	54	-30.28	-	-	-	-	121	123	V
	* 1.271	30.44	V1TR	28.7	-35.6	0	23.54	54	-30.46	-	-	-	-	121	123	V
2	2.463	46.01	PK-U	32.3	-34.6	0	43.71	-	-	-	-	68.2	-24.49	165	275	V
3	2.464	44.84	PK-U	32.3	-34.6	0	42.54	-	-	-	-	68.2	-25.66	67	207	H
4	6.089	38.17	PK-U	35.4	-23.3	0	50.27	-	-	-	-	68.2	-17.93	254	120	H
5	6.689	37.45	PK-U	35.5	-30	0	42.95	-	-	-	-	68.2	-25.25	248	270	H
6	16.839	35.82	PK-U	41.6	-25.1	0	52.32	-	-	-	-	68.2	-15.88	40	125	V

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

MID CHANNEL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

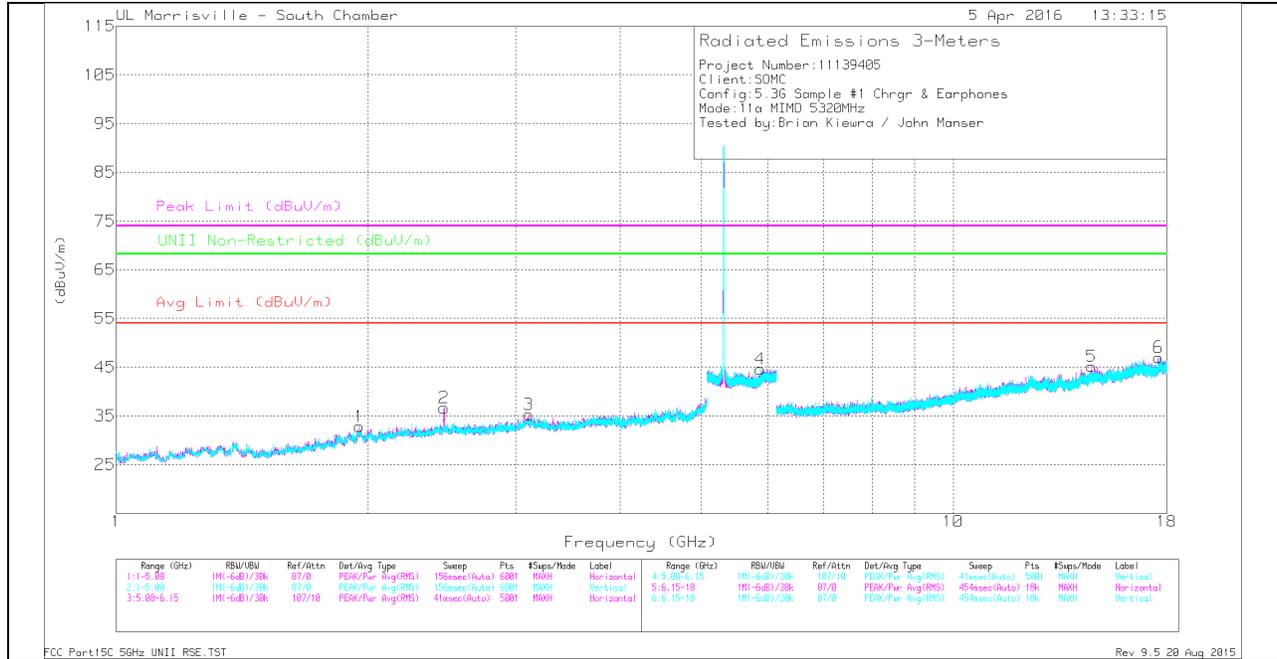
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT009 (dB/m)	Amp/CS/FR/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
2	* 4.252	40.74	PK-U	33.4	-32.8	0	41.34	-	-	74	-32.66	-	-	18	223	H
	* 4.251	28.88	ADR	33.4	-32.8	0	29.48	54	-24.52	-	-	-	-	18	223	H
5	* 10.722	34.5	PK-U	37.9	-25.7	0	46.7	-	-	74	-27.3	-	-	45	356	V
	* 10.721	23.12	ADR	37.9	-25.7	0	35.32	54	-18.68	-	-	-	-	45	356	V
1	2.453	46.81	PK-U	32.3	-34.6	0	44.51	-	-	-	-	68.2	-23.69	335	209	V
3	5.159	39.25	PK-U	34.2	-22.9	0	50.55	-	-	-	-	68.2	-17.65	133	361	V
4	5.969	38.22	PK-U	35.1	-23	0	50.32	-	-	-	-	68.2	-17.88	123	253	H
6	14.868	35.02	PK-U	39.9	-24.4	0	50.52	-	-	-	-	68.2	-17.68	238	147	V

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

**HIGH CHANNEL**



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

**HIGH CHANNEL DATA**

*TRACE MARKERS*

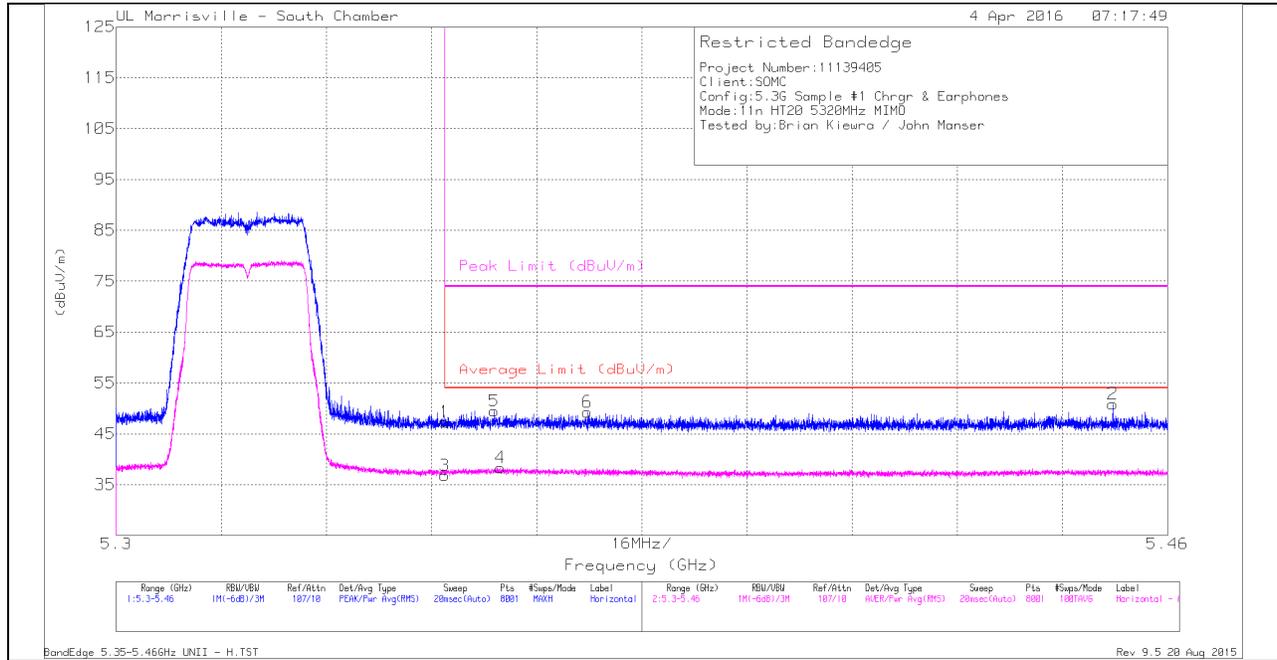
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0009 (dB/m)	Amp/Chl/Rx/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (m)	Polarity
1	1.953	41.97	PK-U	31.2	-34.6	0	38.57	-	-	-	-	68.2	-29.63	241	141	H
2	2.464	44.97	PK-U	32.3	-34.6	0	42.67	-	-	-	-	68.2	-25.53	276	201	H
3	3.109	41.59	PK-U	33.9	-33.9	0	41.59	-	-	-	-	68.2	-26.61	353	234	H
4	5.886	38.18	PK-U	34.9	-23.5	0	49.58	-	-	-	-	68.2	-18.62	158	122	V
5	14.64	34.64	PK-U	39.8	-24.3	0	50.14	-	-	-	-	68.2	-18.06	14	329	H
6	17.603	35.11	PK-U	41.2	-24.4	0	51.91	-	-	-	-	68.2	-16.29	40	147	V

PK-U - U-NII: Maximum Peak

**9.2.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND**

**AUTHORIZED BANDEDGE (HIGH CHANNEL)**

**HORIZONTAL PEAK AND AVERAGE PLOT**



**HORIZONTAL DATA**

**Trace Markers**

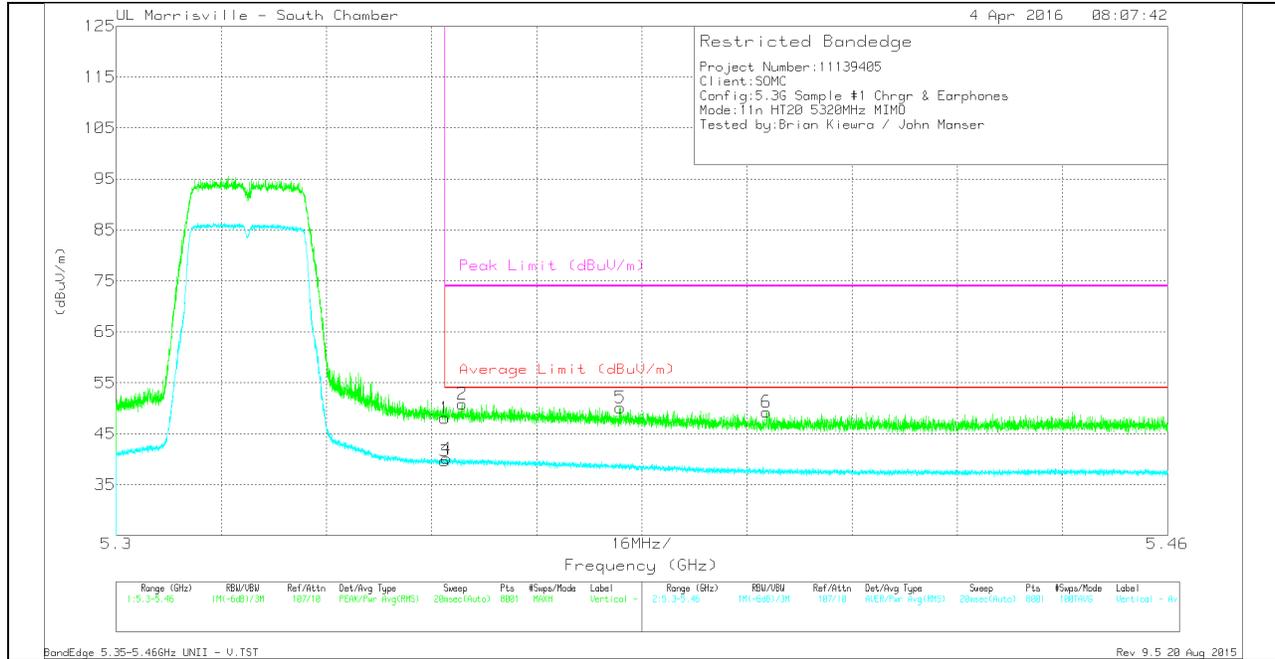
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Chl/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	36.41	Pk	34.4	-23.5	0	47.31	-	-	74	-26.69	0	170	H
2	* 5.452	40.08	Pk	34.6	-23.8	0	50.88	-	-	74	-23.12	0	170	H
5	* 5.358	38.5	Pk	34.4	-23.4	0	49.5	-	-	74	-24.5	0	170	H
6	* 5.372	38.27	Pk	34.5	-23.5	0	49.27	-	-	74	-24.73	0	170	H
3	* 5.35	25.91	RMS	34.4	-23.5	0	36.81	54	-17.19	-	-	0	170	H
4	* 5.359	27.34	RMS	34.4	-23.4	0	38.34	54	-15.66	-	-	0	170	H

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF ATO069 (dB/m)	Amp/Cb/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	37.18	Pk	34.4	-23.5	0	48.08	-	-	74	-25.92	62	265	V
2	* 5.353	39.88	Pk	34.4	-23.4	0	50.88	-	-	74	-23.12	62	265	V
5	* 5.377	39.15	Pk	34.5	-23.5	0	50.15	-	-	74	-23.85	62	265	V
6	* 5.399	38.47	Pk	34.5	-23.7	0	49.27	-	-	74	-24.73	62	265	V
3	* 5.35	28.75	RMS	34.4	-23.5	0	39.65	54	-14.35	-	-	62	265	V
4	* 5.35	29.27	RMS	34.4	-23.5	0	40.17	54	-13.83	-	-	62	265	V

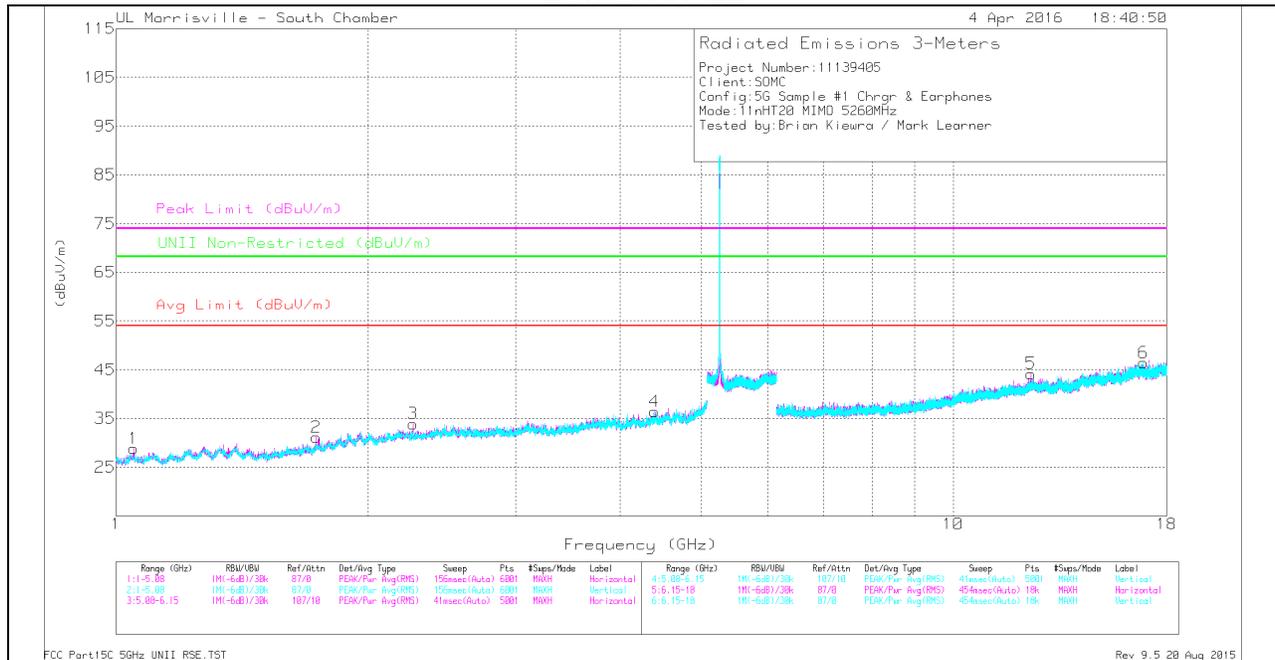
\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

## HARMONICS AND SPURIOUS EMISSIONS

### LOW CHANNEL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

### LOW CHANNEL DATA

#### TRACE MARKERS

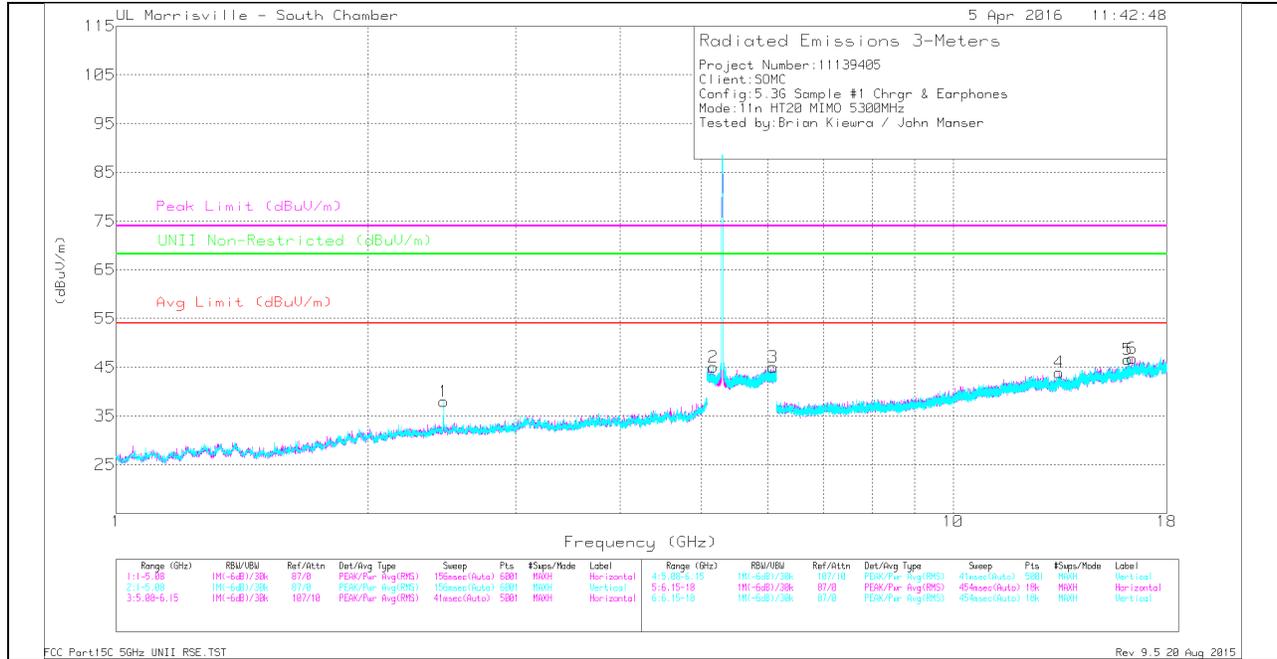
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF AT0069 (dBm)	Amp/Ch/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 1.048	42.69	PK-U	27.3	-35.7	0	34.29	-	-	74	-39.71	-	-	255	268	H
	* 1.048	30.7	ADR	27.3	-35.7	0	22.3	54	-31.7	-	-	-	-	255	268	H
3	* 2.363	42.29	PK-U	31.7	-34.6	0	39.39	-	-	74	-34.61	-	-	69	103	H
	* 2.363	29.81	ADR	31.7	-34.6	0	26.91	54	-27.09	-	-	-	-	69	103	H
4	* 4.396	39.37	PK-U	33.8	-31.8	0	41.37	-	-	74	-32.63	-	-	142	335	V
	* 4.399	27.99	ADR	33.8	-31.8	0	29.99	54	-24.01	-	-	-	-	142	335	V
5	* 12.384	34.43	PK-U	39	-24.8	0	48.63	-	-	74	-25.37	-	-	63	306	H
	* 12.38	23.24	ADR	39	-24.7	0	37.54	54	-16.46	-	-	-	-	63	306	H
2	1.734	42.99	PK-U	29.4	-35	0	37.39	-	-	-	-	68.2	-30.81	149	367	H
6	16.891	35.84	PK-U	41.6	-25.2	0	52.24	-	-	-	-	68.2	-15.96	224	174	V

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

MID CHANNEL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

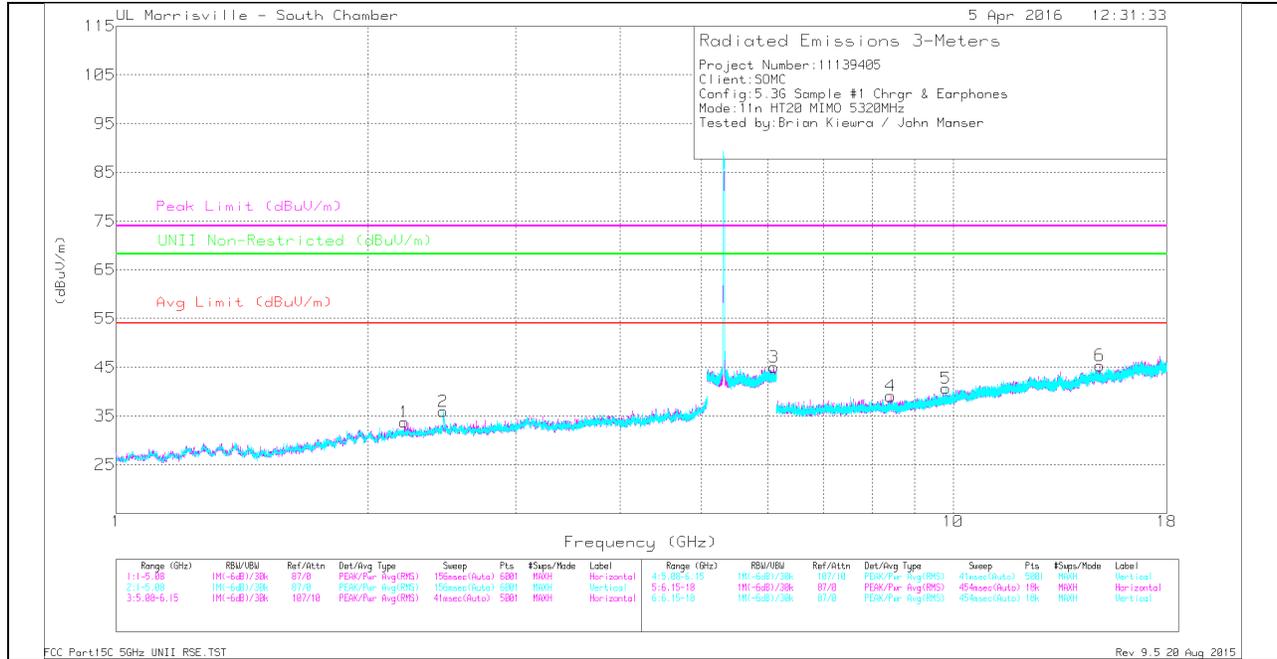
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT009 (dB/m)	Amp/CG/FR/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (Deg)	Height (cm)	Polarity
4	* 13.393	35.32	PK-U	39	-24.9	0	49.42	-	-	74	-24.58	-	-	318	395	H
	* 13.394	23.55	ADR	39	-24.9	0	37.65	54	-16.35	-	-	-	-	318	395	H
5	* 16.187	35.73	PK-U	40.7	-24.8	0	51.63	-	-	74	-22.37	-	-	119	206	V
	* 16.185	24.1	ADR	40.7	-24.9	0	39.9	54	-14.1	-	-	-	-	119	206	V
1	2.463	47.56	PK-U	32.3	-34.6	0	45.26	-	-	-	-	68.2	-22.94	333	204	V
2	5.165	38.48	PK-U	34.2	-22.9	0	49.78	-	-	-	-	68.2	-18.42	294	237	V
3	6.094	38.03	PK-U	35.4	-23.3	0	50.13	-	-	-	-	68.2	-18.07	258	113	H
6	16.372	36.95	PK-U	40.9	-25.8	0	52.05	-	-	-	-	68.2	-16.15	92	119	H

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

**HIGH CHANNEL**



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

**HIGH CHANNEL DATA**

*TRACE MARKERS*

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cou/Freq/Psd (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Altitude (Deg)	Height (cm)	Polarity
1	*2.213	42.36	PK-U	31.9	-34.7	0	39.56	-	-	74	-34.44	-	-	34	147	H
	*2.212	29.78	ADR	31.9	-34.7	0	26.98	54	-27.02	-	-	-	-	34	147	H
4	*8.42	36.32	PK-U	35.7	-28.2	0	43.82	-	-	74	-30.18	-	-	290	257	H
	*8.417	24.97	ADR	35.7	-28.2	0	32.47	54	-21.53	-	-	-	-	290	257	H
2	2.46	45.39	PK-U	32.3	-34.6	0	43.09	-	-	-	-	68.2	-25.11	249	109	V
3	6.107	38.02	PK-U	35.4	-23.2	0	50.22	-	-	-	-	68.2	-17.98	84	312	H
5	9.799	35.42	PK-U	36.8	-27	0	45.22	-	-	-	-	68.2	-22.98	152	282	V
6	14.975	35.39	PK-U	39.9	-25.4	0	49.89	-	-	-	-	68.2	-18.31	347	190	H

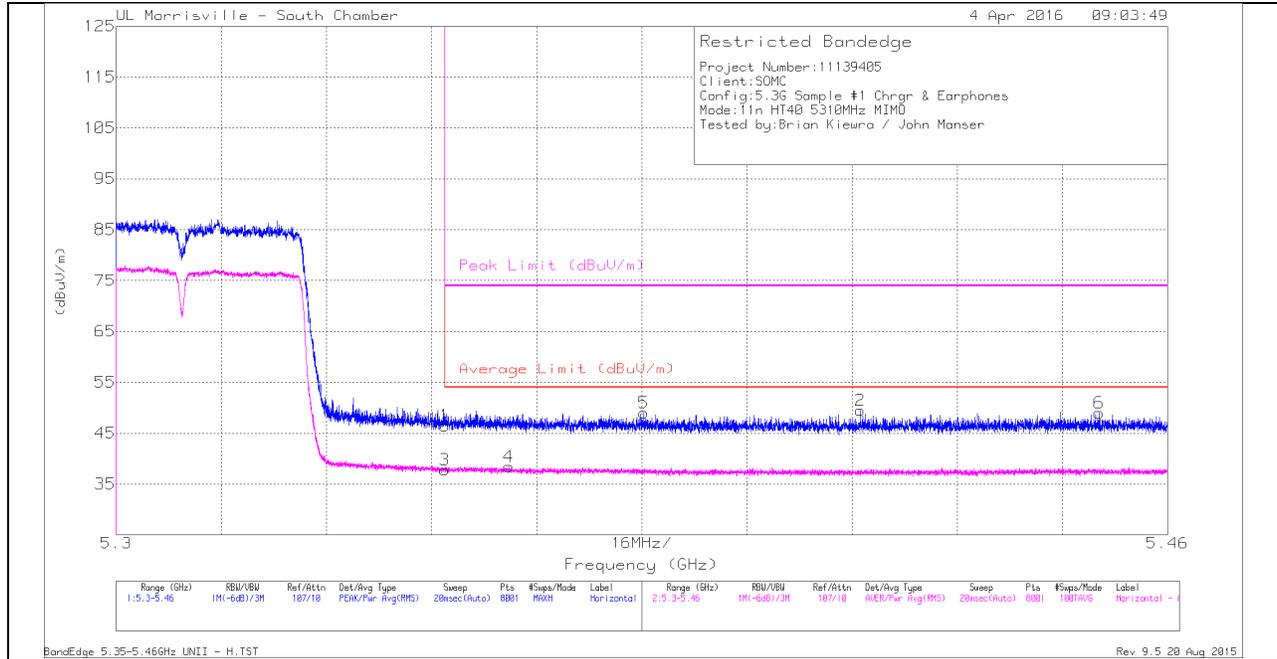
\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

### 9.2.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

##### Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF AT0069 (dB/m)	Amp/Cb/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.35	35.58	Pk	34.4	-23.5	0	46.48	-	-	74	-27.52	349	100	H
2	* 5.413	38.65	Pk	34.5	-23.7	0	49.45	-	-	74	-24.55	349	100	H
5	* 5.38	38.02	Pk	34.5	-23.5	0	49.02	-	-	74	-24.98	349	100	H
6	* 5.45	38.21	Pk	34.6	-23.8	0	49.01	-	-	74	-24.99	349	100	H
3	* 5.35	26.76	RMS	34.4	-23.5	.12	37.78	54	-16.22	-	-	349	100	H
4	* 5.36	27.26	RMS	34.4	-23.4	.12	38.38	54	-15.62	-	-	349	100	H

\* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection